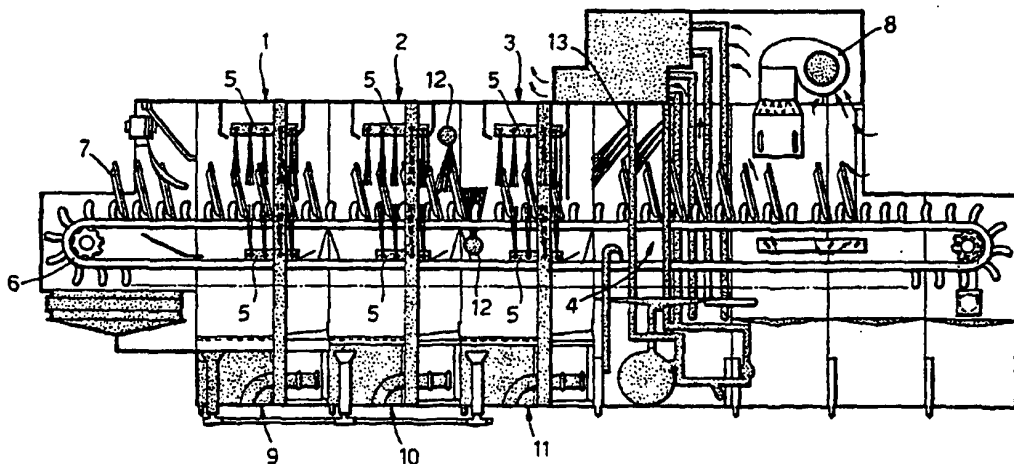




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(71) Applicant (for all designated States except US): DIVERSEY CORPORATION [CA/CA]; One Robert Speck Parkway, Mississauga, Ontario L4Z 3S9 (CA).			
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(75) Inventors/Applicants (for US only): MASSHOFF, Hans, Wil- helm [DE/DE]; Brucher Hof 3, D-45481 Mülheim/Ruhr (DE). PRAECKEL, Udo, Fritz, Walter [DE/DE]; Postfach 1474, D-67287 Kirchheimbolanden (DE).			
(74) Agents: DANIELS, Jeffrey, Nicholas et al.; Page White & Farrer, 54 Doughty Street, London WC1N 2LS (GB).			

(54) Title: MACHINE DISHWASHING PROCESS



## (57) Abstract

A machine dishwashing process for cleaning soiled crockery is provided. The process comprises: (1) optionally prewashing the crockery in a prewash zone; (2) washing the crockery in a wash zone with washing liquor; (3) spraying the crockery from the wash zone with a spraying solution; and (4) rinsing the crockery in a clear washing zone. The washing liquor includes used spraying solution from step (3). The spraying solution has an alkali content of at least 0.8 % by weight. An additive which is substantially free of alkali is supplied to the washing liquor to give a concentration in the washing liquor in the presence of the used spraying solution of at least 0.004 % by weight of complexing agent(s) and/or sequestering agent(s).

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## MACHINE DISHWASHING PROCESS

### FIELD OF THE INVENTION

The invention relates to a machine dishwashing process for cleaning soiled crockery and to the use of a composition as an additive in such a process.

### BACKGROUND TO THE INVENTION

In a typical machine dishwashing process, crockery, such as tableware or cookware, soiled with food or other matter is subjected to a number of treatments in a sequence of zones or cycles. In a main wash zone the soiled crockery is usually sprayed with washing liquor at a pressure sufficient to detach much of the soil present on the crockery. The wash zone may be preceded by a prewash zone in which the crockery is also sprayed with water or with overflow from the wash zone. After the wash zone the crockery is usually rinsed in one or more clear washing zones using fresh water.

Although a major factor in the effectiveness of the wash zone is the mechanical action of the washing liquor on the soiled crockery, in most cases the water pressure exerted is insufficient to detach completely adherent soil such as food residues which have dried on, are firmly adherent, or which contain colouring matter, especially when they contain protein and/or starch. It is also found that a deposit can build up on the crockery over the course of time during successive cleaning operations. In order to make the cleaning of the crockery more effective, it is therefore usual to add into the process a cleaning solution, which is usually supplied to the washing liquor as a concentrated liquid cleaner.

The cleaning solution generally contains alkali, such as sodium hydroxide or potassium hydroxide and is intended to

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remove the adherent soil by swelling or partially dissolving it to facilitate rinsing. The cleaning solution also contains complexing agents which are essential for sequestering metal ions present in hard water. Other additives may include bleach to decolourise food residues which contain colouring matter, surfactants to aid binding of dirt particles, and disinfecting components.

EP-A-0282214 discloses an improvement in machine dishwashing processes in which the crockery is washed in the normal way in the main wash zone and thereafter sprayed in a spraying step with a concentrated spraying solution before further rinsing. In the spraying step the crockery is subjected to a low volume/low intensity mist-like application of concentrated cleaning formulation and the crockery is allowed to remain in contact with the cleaning formulation for, say, at least ten seconds before rinsing. The concentrated cleaning formulation contains as essential ingredients both concentrated alkali and concentrated complexing agents.

A disadvantage of the arrangement of EP-A-0282214 is that the amounts of raw materials such as caustic and complexing agents are not easy to control. Typically, fresh water is applied in the rinse stage but concentrated cleaning solutions are supplied during the spraying step and in the main wash zone. In one typical arrangement, the water and other materials in the process pass in cascade-fashion in the rinse zone to prewash zone direction, counter-current to the direction of the transport of the crockery. Because concentrated raw materials are supplied to various stages of the wash cycle it is very difficult, therefore, to measure and control

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simply and accurately the amount of raw materials needed to be effective in cleaning the crockery. As a result, to ensure effective cleaning there is a tendency to put in more raw material than would actually be necessary. This adds to the running costs of the process and increases the amount of pollution when the waste water is discharged into the environment. Moreover, because a variety of different water hardness conditions are encountered at the site of use of the dishwashing process, it has hitherto been necessary to offer to users a range of products. The user then has had to select the product with the best combination of water hardness and causticity.

#### SUMMARY OF THE INVENTION

The present invention provides a machine dishwashing process for cleaning soiled crockery, which comprises:

(1) optionally prewashing the crockery in a prewash zone;

(2) washing the crockery in a wash zone with washing liquor;

(3) spraying the crockery from the wash zone with a spraying solution; and

(4) rinsing the crockery in a clear washing zone; wherein the washing liquor includes used spraying solution from step (3), the spraying solution has an alkali content of at least 0.8% by weight, and an additive which is substantially free of alkali is supplied to the washing liquor to give a concentration in the washing liquor in the presence of the used spraying solution of at least 0.004% by weight of complexing agent(s) and/or sequestering agent(s).

In accordance with this process most or all of the alkali is supplied as spraying solution in the step of spraying the crockery. Contrary to previous practice it has been

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found unnecessary to add additional cleaning solution or alkali to the washing liquor. Instead, spraying solution used in the spraying step is effectively recycled to the washing liquor for the purpose of washing crockery in the main wash zone. This recycling is typically achieved using a wash tank or reservoir in known fashion from which washing liquor may be pumped onto the crockery.

Because the additive supplied to the washing liquor is substantially free of alkali, the concentration of alkali in the washing liquor would be less than 0.001% by weight if no used spraying solution were present in the washing liquor, preferably less than 0.0004% by weight.

In a preferred embodiment, the spraying solution is substantially free of complexing agents and sequestering agents. This separates the tasks of cleaning and of complex formation from one another and reduces the amount of alkalinity which is contained in the washing liquor, thereby reducing the cost of operating the process and the amount of pollution in the waste water. In an alternative embodiment, the additive is supplied to the washing liquor with the spraying solution, preferably in an amount sufficient to prevent scale formation. In this embodiment, the additive may be supplied to the washing liquor by dosing the spraying solution from a separate additive reservoir. In this way, the amounts of spraying solution and additive can be separately controlled. Additive may also be supplied directly to the washing liquor in the wash zone.

The high alkalinity of the cleaner used in the spraying zone ensures complete detachment of the soiling matter, especially starch, protein and the additive facilitates

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complete detachment of colouring matter-containing food residues on the crockery, which are then completely rinsed off in the actual washing zone. The additive is also present to prevent the formation of scale inside the dishwashing machine and/or the spraying system.

By separating the tasks of cleaning and of complex formation from one another, operation of the process can occur in a more controlled manner. In particular, it is possible to deal on an individual basis with problems of rinsing, scale formation and cleaning for different purposes by adjusting separately the amount of alkali and complexing and/or sequestering agents present in the process. The amount of alkali in the process may be supplied in accordance with the amount of water supplied for spraying. The amount of alkali in the process as a whole will depend only on the rate of supply of alkali from the spraying solution in the spraying step. This enables a higher degree of control of the process than has hitherto been achieved because the amount of alkali entering the process is regulated in direct response to the entering spraying water and substantially independent of the machine water consumption.

The higher the alkali content in the spraying solution, the more effective the cleaning of the soiled crockery. However, this has to be balanced with the rinsability of the sprayed crockery and the cost of the alkali. Generally, the spraying solution has an alkali content of no more than 1.5%, preferably around 0.75%. It is usual to supply the spraying solution as a concentrated liquid cleaner which is diluted with water at a convenient point prior to spraying. The concentrated liquid cleaner typically has an alkali content of at least 25% by weight

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and is diluted to a concentration in the range 4% to 7% by weight for use in the process, advantageously to a concentration of about 5% by weight. The concentrated liquid cleaner generally has an alkali content of no more than 50% by weight, normally in the range 30% to 50% by weight.

In the context of the present invention the term "alkali" encompasses alkalis typical in cleaning detergents and alkali builders such as silicates. Alkalis typical in cleaning detergents include sodium hydroxide, potassium hydroxide, sodium carbonate and potassium carbonate. Sodium hydroxide and/or potassium hydroxide are preferred alkalis for use in the spraying solution.

The washing liquor comprises used spraying solution from the step of spraying the crockery and the additive containing the complexing agent(s) and/or sequestering agent(s). For the avoidance of doubt, it should be noted that there may be more than one complexing agent present in the additive. Similarly, there may be more than one sequestering agent.

Typically, the amount of complexing agent(s) and/or sequestering agent(s) in the washing liquor is sufficient to prevent scale formation in the dishwashing machine and preferably does not exceed 0.05% by weight in the presence of the used spraying solution. Typically, the additive is supplied to the washing liquor in concentrated form to give a dilution in the range 0.02% to 2% by weight, preferably in the range 0.02% to 0.08% by weight. For example, where the washing liquor is present in a wash tank or reservoir, the additive may be supplied to the



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tank or reservoir in proportion to the water consumption of the dishwashing machine. Preferably, the additive is supplied to the washing liquor at a dilution in the range 0.03% to 0.05% by weight and may advantageously contain at least 50% by weight of the complexing agent(s) and/or sequestering agent(s). The above additive quantities apply particularly to relatively soft water conditions. Where hard water is used, the quantities may need to be increased accordingly.

The complexing agent(s) and/or sequestering agent(s) may comprise a chelator capable of sequestering metal ions and removing them from activity in solution by forming an inactive complex. Typical chelators include ethylenediamine tetra acetic acid (EDTA), nitrilotriacetic acid (NTA), tripolyphosphates, and their sodium and potassium salts.

The additive may additionally or alternatively comprise a component to inhibit calcium deposition, such as an acrylic or methacrylic polymer and/or phosphonic acids and/or their sodium and/or potassium salts. Both of these polymers and phosphonates act to limit the formation of crystalline growth of calcium, thereby inhibiting its deposition. This can be useful in preventing build up of limescale within the machinery. Typically, acrylic/methacrylic polymers are present in the additive at concentrations of up to 5% by weight. Typically, phosphonic acids and/or phosphonates are also present in the additive at concentrations of up to 5% by weight.

As a further possibility, the additive may comprise a phosphate/polyphosphate or a citrate. Whichever component(s) is selected in the formulation of the

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additive, the alkali salt, neutral or acid form of the component may be used.

Each of the compositions supplied to the dishwashing machine may be in the form of a liquid, slurry, powder or solid and the dosing system must be constructed accordingly to bring each composition into solution and into the washtank/spraying system. Preferably, each composition will be formulated to have the highest possible amount of active ingredient in it while still maintaining the most preferred physical form. The use of fillers and other inessential ingredients is preferably avoided so as to prevent any negative environmental impact.

For example, the additive may be supplied as a powder having a composition in the following range: 80 to 90% by weight NTA and/or EDTA and/or tripolyphosphates and/or their potassium or sodium salt; 4 to 9% by weight phosphonic acid and/or its sodium or potassium salt; and 4 to 9% by weight acrylic or methacrylic polymer.

In the spraying step, cleaning solution is preferably applied to the crockery as a fine spray. A fine, gentle mist-like spray is particularly desirable. It is important that substantially the whole of the soiled surface of the crockery is contacted by the sprayed cleaning solution. A contact time of at least three seconds, preferably at least 8 seconds, is generally required for the sprayed cleaning solution to have the desired chemical effect. The concentrated spraying solution must contact the soiled crockery for a time sufficient to allow the soil to swell to enable it to be mechanically removed in the rinsing step. Generally a contact time of no more than 100 seconds is required, preferably ten to twelve seconds. Where the machine

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dishwasher is of the conveyor type, the speed of the conveyor belt may be chosen to give an appropriate contact time before the crockery enters the rinse section. As a further feature, the application of the cleaner solution may depend, for example, on a light barrier influenced by crockery present on the conveyor belt.

The present invention further relates to the use of a composition comprising at least 50% by weight of a complexing agent and/or sequestering agent and less than 5% by weight of alkali as an additive in a machine dishwashing process. The composition may be used as described herein to supply concentrated additive to the washing liquor and advantageously contains no more than 5% by weight of alkali, preferably less than 2% by weight.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described in further detail by way of example only and with reference to the accompanying drawings, in which:

FIGURE 1 shows a schematic diagram of a typical conveyor machine dishwasher which is usable in the present invention; and

FIGURE 2 shows a block diagram comparing a cascade system machine dishwasher with a washtank bypass machine dishwasher.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figure 1 shows a machine dishwasher of the conveyor type which operates by a cascade system. The dishwasher includes prewash zone 1, main wash zone 2, power rinse zone 3 and rinse section 4. Conveyor 6 is used to transport crockery 7 through each of the zones and conventional spraying units 5 are provided to spray the crockery. The crockery is dried with drying unit 8.

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Prewash tank 9, main wash tank 10 and power rinse tank 11 are provided to supply to their respective spraying units solutions appropriate to each zone.

In operation, soiled crockery is placed on the conveyor belt and is flooded in the prewash zone 1 with overflow water from the washing zone which is pumped to the spraying unit from prewash tank 9 and may have a temperature of about 40°C. Coarse food residues are thereby rinsed off the crockery. The prewashed crockery enters main wash zone 2 and is sprayed from the spraying unit with washing liquor from main wash tank 10. The washing liquor will include used spraying solution from sprays 12. Additive to the washing liquor is supplied to the main wash tank from a reservoir (not shown). Readily removable soil on the crockery is removed in the main wash zone by a combination of the mechanical action of the spraying and the chemical action of the recycled spraying solution.

The washed crockery now passes under the sprays 12 to remove any difficult remaining soil. Sprays 12 impart a fine mist-like spray of the concentrated spraying solution to the crockery and the speed of the conveyor is adjusted so that the sprayed crockery is not rinsed for at least ten seconds. This enables the concentrated spraying solution to cause the remaining soil to swell and possibly dissolve under the chemical action of the spraying solution. The remaining swollen residues are removed in the power rinse zone 3 by spraying with used rinse water at a temperature of about 65°C from the power rinse tank. The rinse water originates from the final rinse section 4. After the power rinse, fresh water is supplied in spray jets 13 in final rinse section 4 at a temperature

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of about 85°C. The crockery is then subjected to drying under drying unit 8.

In accordance with this process, concentrated spraying solution was supplied to sprays 12 at a concentration of 3% by weight and had an alkali content of 30%. No complexing agents and/or sequestering agents were present in the concentrated spraying solution.

Additive was supplied to the washing liquor at a concentration of 0.05% by weight containing 30% by weight EDTA, 30% NTA by weight, 3% by weight acrylic/methacrylic polymers, 2% by weight phosphonates, the balance being water. No free alkali was present in the additive.

Crockery cleaned according to this process was found to be free of soil and free of alkalinity.

Referring to Figure 2, the present invention is equally applicable to machine dishwashers operating by a washtank bypass system. According to this system, the prewash zone is supplied with water from the power rinse zone and not the wash zone. Fresh water is supplied to the wash zone and allowed to drain. The present invention may be applied to this system in essentially the same way as it is applied to the cascade system described above. Sprays for spraying the concentrated spraying solution are situated so that crockery already washed in the wash zone is subsequently sprayed with the concentrated spraying solution.

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## CLAIMS:

1. A machine dishwashing process for cleaning soiled crockery, which comprises:

- (1) optionally prewashing the crockery in a prewash zone;
- (2) washing the crockery in a wash zone with washing liquor;
- (3) spraying the crockery from the wash zone with a spraying solution; and
- (4) rinsing the crockery in a clear washing zone;

wherein the washing liquor includes used spraying solution from step (3), the spraying solution has an alkali content of at least 0.8% by weight, and an additive which is substantially free of alkali is supplied to the washing liquor to give a concentration in the washing liquor in the presence of the used spraying solution of at least 0.004% by weight of complexing agent(s) and/or sequestering agent(s).

2. A process according to claim 1, wherein the spraying solution is substantially free of complexing agents and/or sequestering agents.

3. A process according to claim 1 or claim 2, wherein the spraying solution has an alkali content in the range 0.8% to 1.5% by weight.

4. A process according to any one of claims 1 to 3, wherein the spraying solution is supplied as a concentrated liquid cleaner with an alkali content of at least 25% by weight and diluted in the range 4% to 7% by weight.

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5. A process according to any one of the preceding claims, wherein the concentration of alkali in the washing liquor is less than 0.0004% by weight in the absence of the used spraying solution.

6. A process according to any one of the preceding claims, wherein the amount of complexing agent(s) and/or sequestering agent(s) in the washing liquor does not exceed 0.05% by weight in the absence of the used spraying solution.

7. A process according to any one of the preceding claims, wherein the additive is supplied to the washing liquor at a dilution in the range 0.02% to 2% by weight.

8. A process according to claim 7, wherein the additive is supplied to the washing liquor at a dilution in the range 0.03% to 0.05% by weight.

9. A process according to claim 8, wherein the additive contains an amount of complexing agent(s) and/or sequestering agent(s) in the range 30% to 50% by weight.

10. A process according to any one of the preceding claims, wherein the additive further comprises a component to inhibit calcium deposition.

11. A process according to claim 1, wherein the additive is supplied to the washing liquor in step (3) with the spraying solution.

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12. Use of a composition comprising at least 50% by weight of a complexing agent and/or sequestering agent and less than 5% by weight of alkali as an additive in a machine dishwashing process.

13. Use according to claim 12, wherein the composition comprises one or more complexing/sequestering agents selected from EDTA, NTA, phosphonic acids, citric acid, phosphoric acid and polymers thereof, sodium and potassium salts thereof, and acrylic/methacrylic polymers.

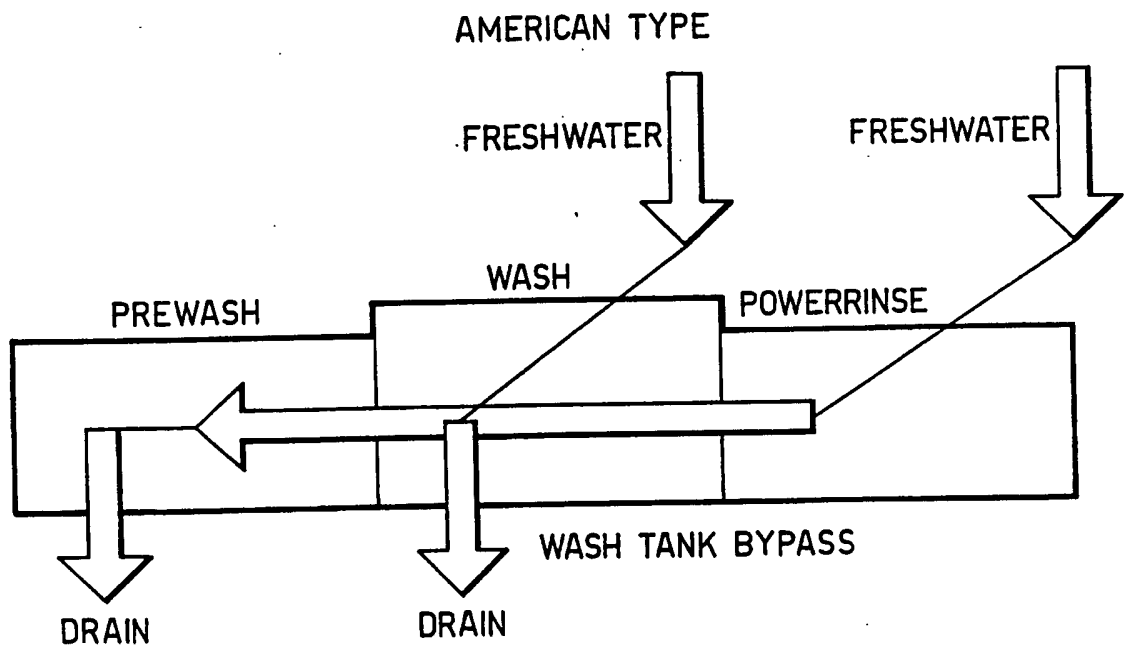
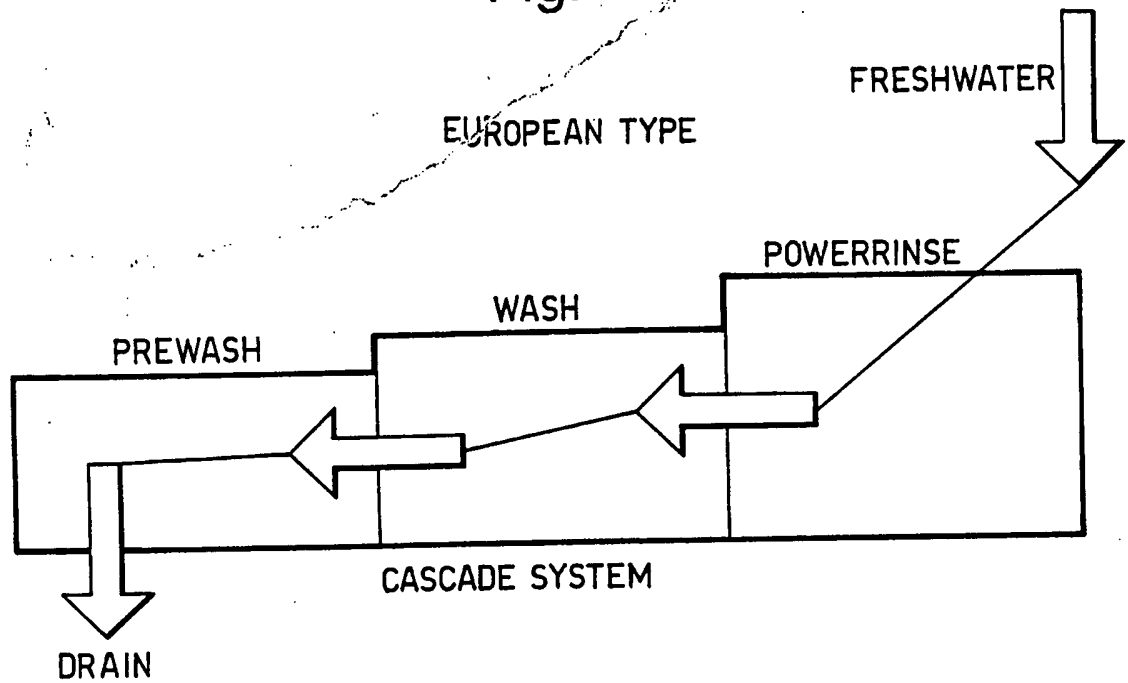
14. Use according to claim 12 or claim 13, wherein the amount of alkali is less than 2% by weight.

15. Use according to any one of claims 12 to 14, wherein the composition is in the form of a solid, powder, slurry or liquid.

16. Use according to claim 15, wherein the composition comprises a powder comprising: 80 to 90% by weight NTA and/or EDTA and/or a tripolyphosphate, and/or the potassium or sodium salt thereof; 4 to 9% by weight phosphonic acid and/or its sodium or potassium salt; and 4 to 9% by weight acrylic or methacrylic polymer.

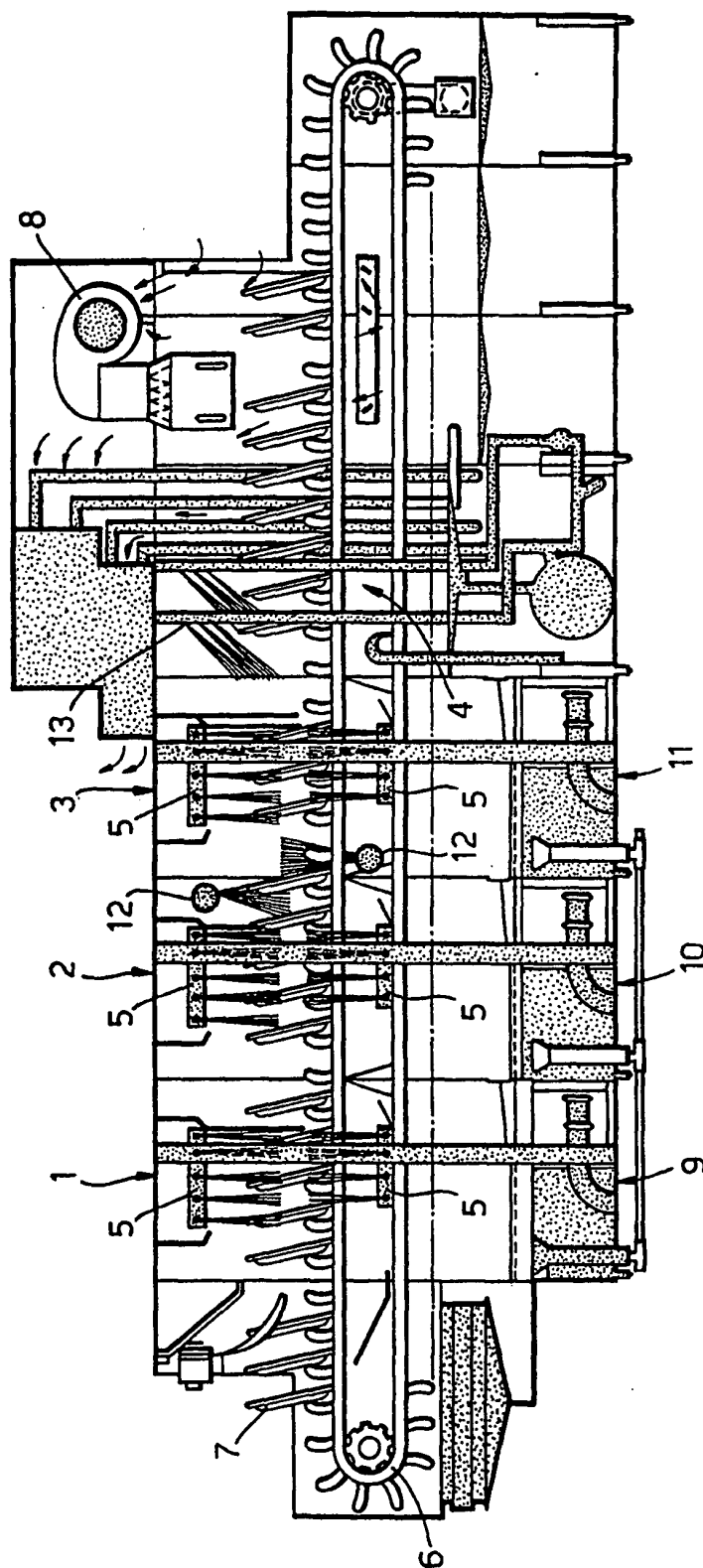


Fig.2.



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Fig.1.



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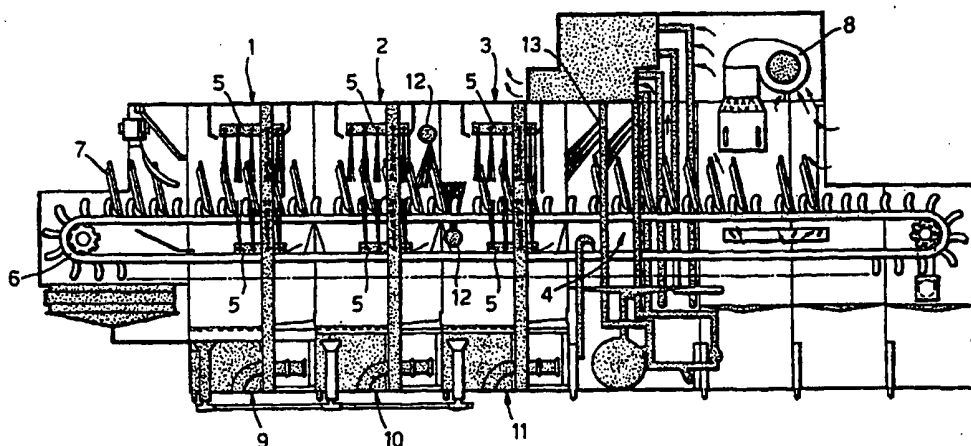
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(74) Agents: DANIELS, Jeffrey, Nicholas et al.; Page White & Farrer, 54 Doughty Street, London WC1N 2LS (GB).			

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(57) Abstract

A machine dishwashing process for cleaning soiled crockery is provided. The process comprises: (1) optionally prewashing the crockery in a prewash zone; (2) washing the crockery in a wash zone with washing liquor; (3) spraying the crockery from the wash zone with a spraying solution; and (4) rinsing the crockery in a clear washing zone. The washing liquor includes used spraying solution from step (3). The spraying solution has an alkali content of at least 0.8 % by weight. An additive which is substantially free of alkali is supplied to the washing liquor to give a concentration in the washing liquor in the presence of the used spraying solution of at least 0.004 % by weight of complexing agent(s) and/or sequestering agent(s).

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 94/03805

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 6 A47L15/00 A47L15/24 A47L15/44 C1107/36 C1107/32 C1107/16 C1107/26 C1103/33 C1103/37 C1103/06 C1103/36					
According to International Patent Classification (IPC) or to both national classification and IPC					
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 6 A47L					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)					
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>					
Category*	Citation of document, with indication, where appropriate, of the relevant passages				Relevant to claim No.
A	US,A,3 896 827 (N. ROBINSON) 29 July 1975 see column 2 - column 8; figures ---				1
A	GB,A,1 027 309 (R. NOLTE) 27 April 1966 see page 2 - page 3; figure 1 ---				1
A	WO,A,91 07904 (HENKEL) 13 June 1991 see page 7 - page 16; figures ---				1
A	US,A,4 313 451 (E. VILEN) 2 February 1982 see column 3 - column 5; figure 1 ---				1
A	WO,A,93 05696 (HENKEL) 1 April 1993 see page 4 - page 5; claims -----				1
<input type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.					
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "A" document member of the same patent family					
Date of the actual completion of the international search  24 May 1995			Date of mailing of the international search report  26. 05. 95		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl, Fax (+ 31-70) 340-3016			Authorized officer  Pfannenstein, H		

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 94/03805

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. Claims : 1-11 dish washing process
2. Claims : 12-16 use of composition in a dish washing process

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 94/03805

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-3896827	29-07-75	NONE	
GB-A-1027309		NONE	
WO-A-9107904	13-06-91	DE-A- 3938755	29-05-91
		DE-D- 59004641	24-03-94
		EP-A- 0501996	09-09-92
		ES-T- 2049050	01-04-94
		JP-T- 5501973	15-04-93
		US-A- 5356483	18-10-94
US-A-4313451	02-02-82	NONE	
WO-A-9305696	01-04-93	DE-A- 4132306	08-04-93
		EP-A- 0605507	13-07-94

TI \*\*\*METERING\*\*\* \*\*\*DISPENSER\*\*\* FOR AUTOMATIC WASHERS

FILE 'STNGUIDE' ENTERED AT 16:47:21 ON 27 FEB 2002  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE  
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE  
CHARGED TO COST=0592087

FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Feb 22, 2002 (20020222/UP).

=> d bib abs 4,8,12,14,19,21,23-29,31,33-42,44-46,48,50,51,53,54,56-61  
YOU HAVE REQUESTED DATA FROM FILE 'IFIPAT' - CONTINUE? (Y)/N:y

L20 ANSWER 4 OF 61 IFIPAT COPYRIGHT 2002 IFI  
AN 3240081 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*CLEANING\*\*\* \*\*\*DEVICE\*\*\* AND METHOD  
INF Amabile; Robert, Lake Hiawatha, NJ  
Cooper; Douglas W., Ramsey, NJ  
Paley; Steven J., Paramus, NJ  
Paley; William R., East-Wayne, NJ  
Russo; Peter B., Califon, NJ  
Sayre; Jeffrey C., Oakland, NJ  
Siegerman; Howard D., Hillsdale, NJ  
IN Amabile Robert; Cooper Douglas W; Paley Steven J; Paley William R; Russo  
Peter B; Sayre Jeffrey C; Siegerman Howard D  
PAF The Texwipe Company LLC, Upper Saddle River, NJ  
PA Texwipe Co LLC  
EXNAM Fidei, David T  
AG Neff, Gregor N.  
Whitman Breed Abbott and Morgan LLC  
PI US 5988371 19991123 (CITED IN 001 LATER PATENTS)  
AI US 1998-33345 19980302  
XPD 10 Mar 2015  
RLI US 1995-527153 19950912 CONTINUATION ABANDONED  
US 1995-402113 19950310 CONTINUATION-IN-PART ABANDONED  
US 1997-803781 19970224 DIVISION 5814159  
FI US 5988371 19991123  
US 5814159  
DT UTILITY  
FS MECHANICAL  
CLMN 17  
GI 6 Drawing Sheet(s), 12 Figure(s).  
AB A cleaning kit for use in cleaning \*\*\*surfaces\*\*\* in clean rooms,  
semiconductor fabrication plants, pharmaceutical manufacturing  
facilities, etc. A stack of extremely clean wipers is packaged together  
with a container of cleaning fluid in a liquid-tight outer container. The  
outer container is vacuum-sealed. The kit is stored until just before it  
is to be used. Fluid is released from the inner container into the  
wipers, preferably by the use of a puncturing device operable to puncture  
one of the walls of the inner container by the application of pressure in  
a limited area on the outside of the outer container. The cleaning liquid  
is allowed to soak into the wipers, and the wipers are removed from the



outer container for use.

CLMN 17

GI 6 Drawing Sheet(s), 12 Figure(s).

L20 ANSWER 8 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 3125777 IFIPAT;IFIUDB;IFICDB

TI \*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\* WITH A \*\*\*DETERGENT\*\*\*  
\*\*\*DISPENSER\*\*\*

INF Blauert; Peter, Berlin, DE  
Proppe; Wolfgang, Berlin, DE  
Schermuck; Horst, Berlin, DE  
Stolze; Andreas, Berlin, DE

IN Blauert Peter (DE); Proppe Wolfgang (DE); Schermuck Horst (DE); Stolze  
Andreas (DE)

PAF BSH Bosch und Siemens Hausgeraete GmbH, Munich, DE

PA Bosch-Siemens Hausgerate GmbH DE (2561)

EXNAM Stinson, Frankie L

AG Greenberg, Laurence A.  
Lerner, Herbert L.

PI US 5884506 19990323

AI US 1995-581393 19951229

XPD 29 Dec 2015

PRAI DE 1994-4447160 19941229

FI US 5884506 19990323

DT UTILITY

FS MECHANICAL

MRN 009668 MFN: 0701

CLMN 5

GI 2 Drawing Sheet(s), 4 Figure(s).

AB A \*\*\*washing\*\*\* \*\*\*machine\*\*\* includes a \*\*\*detergent\*\*\*  
\*\*\*dispenser\*\*\* having at least one fresh-water connection, a free air  
course disposed downstream of the at least one fresh-water connection,  
and a \*\*\*detergent\*\*\* chamber. A water guide conduit supplies fresh  
water to the \*\*\*detergent\*\*\* chamber. A fresh-water diversion line is  
connected to the water guide conduit downstream of the free air course.

CLMN 5

GI 2 Drawing Sheet(s), 4 Figure(s).

L20 ANSWER 12 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2813583 IFIPAT;IFIUDB;IFICDB

TI APPARATUS FOR MONITORING AND CONTROLLING THE OPERATION OF A  
\*\*\*MACHINE\*\*\* FOR \*\*\*WASHING\*\*\* ARTICLES

INF Erickson, Timothy K, Lena, IL  
O'Brien, Gary R, Freeport, IL  
Reeve, Ian F, Rockford, IL

IN Erickson Timothy K; O'Brien Gary R; Reeve Ian F

PAF ~~Honeywell Inc~~, Minneapolis, MN

PA Honeywell Inc (39776)

EXNAM Coe, Philip R

AG Lanyi, William D

PI ~~US 5603233~~ 19970218 (CITED IN 003 LATER PATENTS)

AI US 1995-501354 19950712

XPD 12 Jul 2015

FI US 5603233 19970218

DT UTILITY

FS MECHANICAL

MRN 007574 MFN: 0410

CLMN 20

GI 14 Drawing Sheet(s), 16 Figure(s).

AB A \*\*\*machine\*\*\* for \*\*\*washing\*\*\* articles is provided with a wash process sensor that is capable of \*\*\*measuring\*\*\* a plurality of physical parameters that relate to the progress of a washing procedure. The wash process sensor also monitors the changes in the \*\*\*measured\*\*\* parameters and calculates a value that represents the degree of cleanliness or dirtiness of the articles being washed. In one embodiment, the wash process sensor also directly controls a plurality of devices, such as motors, heaters, \*\*\*dispensers\*\*\* and valves, to directly control the washing process.

CLMN 20

GI 14 Drawing Sheet(s), 16 Figure(s).

L20 ANSWER 14 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2754043 IFIPAT;IFIUDB;IFICDB

TI FRONT LOADING \*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\*

INF Bongini, Dino, Fabriano, IT  
Duri, Sandro, Fluminata, IT  
Stopponi, Andrea, Matelica, IT

IN Bongini Dino (IT); Duri Sandro (IT); Stopponi Andrea (IT)

PAF Merloni Elettrodomestici SpA, Fabriano, IT

PA Merloni Elettrodomestici S p A IT

EXNAM Coe, Philip R

AG Dubno, Herbert

Kateshov, Yuri

PI US 5548978 19960827 (CITED IN 002 LATER PATENTS)

AI US 1994-346155 19941129

XPD 29 Nov 2014

PRAI IT 1993-TO909 19931130

FI US 5548978 19960827

DT UTILITY

FS MECHANICAL

MRN 007324 MFN: 0931

CLMN 17

GI 3 Drawing Sheet(s), 3 Figure(s).

AB A front loading \*\*\*laundry\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\*, of the domestic type, whereby the body of the washing agents distributor is mounted on the frontal wall of the washing chamber, in correspondence with the respective aperture, and facing towards the inside of the basket through the aperture of the latter.

CLMN 17

GI 3 Drawing Sheet(s), 3 Figure(s).

L20 ANSWER 19 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2537621 IFIPAT;IFIUDB;IFICDB

TI EQUIPMENT FOR THE \*\*\*MACHINE\*\*\* \*\*\*WASHING\*\*\* OF \*\*\*CLOTHES\*\*\* AND THE METHOD OF UTILIZING THE SAME; AUTOMATIC \*\*\*MEASURING\*\*\*, \*\*\*DISPENSING\*\*\* LIQUID \*\*\*DETERGENT\*\*\*

INF Bailey, John, Newcastle Upon Tyne, GB  
Bocquet, Gerard, Neuilly Sur Seine, FR  
Bouraoui-Karoui, Aude, Strombeek-Bever, BE  
Cornette, Henri, Pointoise, FR  
Laurenty, Gilbert, Paris, FR

Rutter, Philippa J, Durhan, GB

IN Bailey John (GB); Bocquet Gerard (FR); Bouraoui-Karoui Aude (BE); Cornette Henri (FR); Laurenty Gilbert (FR); Rutter Philippa J (GB)

PAF ~~The Procter & Gamble Company~~, Cincinnati, OH

PA Procter & Gamble Co The (68128)

EXNAM Coe, Philip R

AG Andes, William Scott

Garner, Dean L

Linman, E Kelly

PI ~~US 5355541~~ 19941018 (CITED IN 004 LATER PATENTS)

WO 9209737 19920611

AI US 1993-64109 19930525

WO 1991-US8824 19911125

19930525 PCT 371 date

19930525 PCT 102(e) date

XPD 25 Nov 2011

PRAI FR 1990-15064 19901130

FI US 5355541 19941018

DT UTILITY

FS CHEMICAL MECHANICAL

CHEMICAL

MECHANICAL

MRN 007156 MFN: 0013

CLMN 18

GI 7 Drawing Sheet(s), 15 Figure(s).

AB The equipment comprises a \*\*\*measuring\*\*\* and \*\*\*dispensing\*\*\* device of the reusable type for the \*\*\*machine\*\*\* \*\*\*washing\*\*\* of \*\*\*clothes\*\*\*, which comprises a hollow body (1) intended to receive the amount of liquid \*\*\*detergent\*\*\* prescribed for the wash, said body being provided with at least one filling opening (3) and outlets (7b) for the distribution of said product or products, as well as means (8) enabling the user to effect, once said device has been filled, the easy and controlled application of at least one product contained in it to selected areas of the clothing before the latter is subjected to \*\*\*washing\*\*\* in the \*\*\*machine\*\*\*, for the purpose of effecting the pretreatment of said areas before the washing cycle, said \*\*\*measuring\*\*\* and \*\*\*dispensing\*\*\* device, containing the amount of product remaining after the pretreatment, being introduced into the machine together with the clothes, said pretreatment means (8) being removable from the body of said device.

CLMN 18

GI 7 Drawing Sheet(s), 15 Figure(s).

L20 ANSWER 21 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2522109 IFIPAT;IFIUDB;IFICDB

TI \*\*\*DISPENSER\*\*\* -DISBRIBUTOR FOR LIQUID \*\*\*DETERGENT\*\*\* FOR

\*\*\*WASHING\*\*\* \*\*\*MACHINES\*\*\*

INF Berveglieri, Fabrizio, Genoa, IT

IN Berveglieri Fabrizio (IT)

PAF Mira Lanza SpA, Milan, IT

PA Mira Lanza S p A IT

EXNAM Stinson, Frankie L

AG Larson and Taylor

PI US 5341660 19940830 (CITED IN 002 LATER PATENTS)

AI US 1993-37443 19930326

XPD 26 Mar 2013

PRAI IT 1992-UGE36 19920626

FI US 5341660 19940830

DT UTILITY; EXPIRED

FS MECHANICAL

MRN 006626 MFN: 0446

CLMN 4

GI 2 Drawing Sheet(s), 4 Figure(s).

AB \*\*\*Dispenser\*\*\* -distributor provided with a device for the local application of the liquid \*\*\*detergent\*\*\*. The device consists of an aperture let into the top part of the side \*\*\*surface\*\*\* of the \*\*\*dispenser\*\*\* -distributor whose orifice is intercepted by a circularsectioned element rotatably supported about pins engaged in two recesses positioned on the rim of the aperture.

CLMN 4

GI 2 Drawing Sheet(s), 4 Figure(s).

L20 ANSWER 23 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2475784 IFIPAT;IFIUDB;IFICDB

TI AUTOMATIC DOSING \*\*\*DISPENSER\*\*\* EMPLOYING ATMOSPHERIC VENT TO IMPROVE OPENING RELIABILITY

INF Milenkevich, Joseph A, Cincinnati, OH

IN Milenkevich Joseph A

PAF The Procter & Gamble Company, Cincinnati, OH

PA Procter & Gamble Co The (68128)

EXNAM Shaver, Kevin P

AG Garner, Dean L  
Linman, E Kelly

PI US 5314098 19940524

AI US 1993-82686 19930624

XPD 24 Jun 2013

FI US 5314098 19940524

DT UTILITY; CERTIFICATE OF CORRECTION

CDAT 29 Nov 1994

FS MECHANICAL

MRN 006627 MFN: 0629

CLMN 9

GI 3 Drawing Sheet(s), 4 Figure(s).

AB An improved \*\*\*dispenser\*\*\* for reliably adding fluid rinse additive to the rinse water in an automatic \*\*\*washing\*\*\* \*\*\*machine\*\*\*. The \*\*\*dispenser\*\*\* includes a filling/ \*\*\*dispensing\*\*\* aperture within the uppermost portion of a container for adding the fluid additive to the \*\*\*dispenser\*\*\* and for allowing the rinse water to enter and exit the \*\*\*dispenser\*\*\*. The \*\*\*dispenser\*\*\* is provided with a manually closable centrifugally openable valve for closing the filling/ \*\*\*dispensing\*\*\* aperture in the container after it has been filled with additive. The valve maintains substantially all of the fluid additive within the \*\*\*dispenser\*\*\* throughout the wash cycle until the \*\*\*dispenser\*\*\* is opened by the centrifugal force during the spin empty portion of the wash cycle. The \*\*\*dispenser\*\*\* further includes a vent which is operatably associated with the valve to vent the interior of the container to the atmosphere whenever the valve is in its closed position. The vent is positioned within the container so that it cannot be submerged in a fluid additive regardless of the orientation of the container so long as the valve remains in its closed position.

CLMN 9

GI 3 Drawing Sheet(s), 4 Figure(s).

L20 ANSWER 24 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2448561 IFIPAT;IFIUDB;IFICDB

TI \*\*\*LAUNDRY\*\*\* \*\*\*DETERGENT\*\*\* \*\*\*DISPENSING\*\*\* \*\*\*DEVICE\*\*\*

INF Cornette, Henri, Pontoise, FR

Duquet, Jacky P, Herbeville, FR  
 IN Cornette Henri (FR); Duquet Jacky P (FR)  
 PAF The Proctor & Gamble Company, Cincinnati, OH  
 PA Procter & Gamble Co The (68128)  
 EXNAM McInroy, Ruth  
 AG Hughett, Eileen L  
 Johnson, Kevin C  
 Kock, Ronald W  
 PI US 344820 19940301  
 AI US 1991-763401 19910916  
 PTERM 14  
 XPD 1 Mar 2008  
 PRAI FR 1991-1734 19910320  
 FI US 344820 19940301  
 DT DESIGN  
 FS DESIGN  
 MRN 006083 MFN: 0937  
 CLMN 1  
 GI 3 Drawing Sheet(s), 7 Figure(s).  
 FIG. 1 is a perspective view of a \*\*\*laundry\*\*\* \*\*\*detergent\*\*\*  
 \*\*\*dispensing\*\*\* \*\*\*device\*\*\* showing our new design;  
 FIG. 2 is a left side elevational view thereof;  
 FIG. 3 is a bottom plan view thereof;  
 FIG. 4 is a top plan view thereof;  
 FIG. 5 is a right side elevational view thereof;  
 FIG. 6 is a rear elevational view thereof; and,  
 FIG. 7 is a front elevational view thereof.  
 AB The ornamental design for a \*\*\*laundry\*\*\* \*\*\*detergent\*\*\*  
 \*\*\*dispensing\*\*\* \*\*\*device\*\*\*, as shown and described.  
 CLMN 1  
 GI 3 Drawing Sheet(s), 7 Figure(s).  
 FIG. 1 is a perspective view of a \*\*\*laundry\*\*\* \*\*\*detergent\*\*\*  
 \*\*\*dispensing\*\*\* \*\*\*device\*\*\* showing our new design;  
 FIG. 2 is a left side elevational view thereof;  
 FIG. 3 is a bottom plan view thereof;  
 FIG. 4 is a top plan view thereof;  
 FIG. 5 is a right side elevational view thereof;  
 FIG. 6 is a rear elevational view thereof; and,  
 FIG. 7 is a front elevational view thereof.  
 L20 ANSWER 25 OF 61 IFIPAT COPYRIGHT 2002 IFI  
 AN 2423740 IFIPAT;IFIUDB;IFICDB  
 TI APPARATUS FOR \*\*\*DISPENSING\*\*\* RINSE WATER ADDITIVE IN AN AUTOMATIC  
 \*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\*  
 INF Baginski, Richard M, West Chester, OH  
 Cappel, Jerome P, Cincinnati, OH  
 McKibben, Gary E, Middletown, OH  
 IN Baginski Richard M; Cappel Jerome P; McKibben Gary E  
 PAF The Procter & Gamble Company, Cincinnati, OH  
 PA Procter & Gamble Co The (68128)  
 EXNAM Shaver, Kevin P  
 AG Garner, Dean L  
 Linman, E Kelly  
 PI US 5267671 19931207 (CITED IN 001 LATER PATENTS)  
 AI US 1992-851581 19920316  
 XPD 16 Mar 2012  
 FI US 5267671 19931207

DT UTILITY; CERTIFICATE OF CORRECTION

CDAT 4 Apr 1995

FS MECHANICAL

MRN 006083 MFN: 0316

CLMN 13

GI 2 Drawing Sheet(s), 3 Figure(s).

AB An improved apparatus for accurately \*\*\*measuring\*\*\* and \*\*\*dispensing\*\*\* a rinse water additive in an automatic \*\*\*washing\*\*\* machine\*\*\*. In a particularly preferred embodiment, an apparatus is provided for accurately \*\*\*measuring\*\*\* a relatively small volume of fluid product by forming an annular column within the \*\*\*dispenser\*\*\*. The annular column extends at least to approximately the desired fill level for the additive so that the relatively small amount of fluid product causes a substantial change in the fluid's vertical position within the \*\*\*dispenser\*\*\*. This is preferably accomplished by providing a \*\*\*dispenser\*\*\* having an internal pushup configuration in its base, the pushup configuration extending at least to approximately the desired fill level within the \*\*\*dispenser\*\*\*. An improved sealing structure is also provided for the valve used to close the filling and \*\*\*dispensing\*\*\* aperture in the \*\*\*dispenser\*\*\* body during the wash cycle. A flexible securement member is used to secure a recessed valve to the \*\*\*dispenser\*\*\* to minimize the chances of premature opening during the wash cycle. Each of these improvements helps to insure that the correct amount of additive will be added to the \*\*\*dispenser\*\*\* and that substantially all of additive initially added to the \*\*\*dispenser\*\*\* will be present when the valve is opened by the centrifugal force of the spin cycle so that all of the material can be effectively utilized during the rinse cycle.

CLMN 13

GI 2 Drawing Sheet(s), 3 Figure(s).

L20 ANSWER 26 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2407850 IFIPAT;IFIUDB;IFICDB

TI ARRANGEMENT FOR CONTROLLING \*\*\*DETERGENT\*\*\* ADDITION IN \*\*\*WASHING\*\*\* \*\*\*MACHINES\*\*\*

INF Fruccho, Giuseppe, Pordenone, IT

Russo, Fernando, Pordenone, IT

IN Fruccho Giuseppe (IT); Russo Fernando (IT)

PAF Zanussi Elettrodomestici SpA, IT

PA Zanussi Elettrodomestici SpA IT (19710)

EXNAM Coe, Philip R

AG Pearne, Gordon, McCoy & Granger

PI US 5253494 19931019 (CITED IN 001 LATER PATENTS)

AI US 1992-832427 19920207

XPD 7 Feb 2012

PRAI IT 1991-A12 19910227

FI US 5253494 19931019

DT UTILITY; REASSIGNED

FS MECHANICAL

MRN 006010 MFN: 0149

CLMN 3

GI 2 Drawing Sheet(s), 5 Figure(s).

AB A controller is associated with the \*\*\*detergent\*\*\* \*\*\*dispenser\*\*\* of a \*\*\*washing\*\*\* machine\*\*\*, such as a \*\*\*clothes\*\*\* \*\*\*washing\*\*\* machine\*\*\* or a combined \*\*\*clothes\*\*\* \*\*\*washing\*\*\* and drying machine\*\*\*. The controller selectively controls the addition of various \*\*\*detergents\*\*\* and rinsing aids

into the machine's tub. The corresponding control position is signalled by a plurality of micro-switches (17, 18, 19, 20) that are actuated by a rotating compartment selector (15) of the \*\*\*dispenser\*\*\*. The selector selectively establishes communication between the cold or hot water supply and each one of the compartments of said \*\*\*dispenser\*\*\*. The micro-switches (17, 18, 19, 20) can be switched on or off, along with a corresponding operational component part (42, 43, 44, 45) of the machine, by the rotating compartment selector means (15). The closure of the micro-switches is reported to the electronic microprocessor controller (40) which therefore will identify the control position of the rotating compartment selector (15) and, as a consequence, the corresponding phase of the washing cycle being performed.

CLMN 3

GI 2 Drawing Sheet(s), 5 Figure(s).

L20 ANSWER 27 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2377300 IFIPAT;IFIUDB;IFICDB

TI ARRANGEMENT FOR \*\*\*DISPENSING\*\*\* LIQUID \*\*\*DETERGENTS\*\*\* AND/OR  
RINSE AIDS IN A \*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\*

INF Cargnel, Giuseppe, Treviso, IT  
Rizzetto, Pietro, Venezia, IT

IN Cargnel Giuseppe (IT); Rizzetto Pietro (IT)

PAF Zanussi Elettrodomestici SpA, Pordenone, IT

PA Zanussi Elettrodomestici SpA IT (19710)

EXNAM Coe, Philip R

AG Pearne, Gordon, McCoy & Granger

PI US 5226301 19930713 (CITED IN 001 LATER PATENTS)

AI US 1992-825044 19920124

XPD 24 Jan 2012

PRAI IT 1991-UPN2 19910218

FI US 5226301 19930713

DT UTILITY; REASSIGNED; CERTIFICATE OF CORRECTION

CDAT 12 Apr 1994

FS MECHANICAL

MRN 005991 MFN: 0178

CLMN 8

GI 5 Drawing Sheet(s), 5 Figure(s).

AB A \*\*\*dispenser\*\*\* for \*\*\*washing\*\*\* \*\*\*machines\*\*\*, in particular \*\*\*clothes\*\*\* \*\*\*washing\*\*\* \*\*\*machines\*\*\* or combined \*\*\*clothes\*\*\* \*\*\*washing\*\*\* and drying \*\*\*machines\*\*\*. The \*\*\*dispenser\*\*\* includes first and second rigid conduits (12, 13) extending orthogonally with respect to each other. The first is connected with a sealed enclosure (8) containing the liquid \*\*\*detergents\*\*\* and/or rinse aids. The second is connected with a quick-fitting coupler (25) that is adapted to be connected and disconnected with respect to a further rigid conduit (28) communicating with the wash tub of the \*\*\*washing\*\*\* \*\*\*machine\*\*\* through a positive-displacement pump. The second rigid conduit (13) is associated with a check valve (32) that is biased by a spring (42) to move from a first to a second position, whereby a communication is therefore established or discontinued between the enclosure (8) and its outer space when the second rigid conduit (13) is engaged and disengaged, respectively, with respect to said quick-fitting coupling means (25). The \*\*\*dispensing\*\*\* arrangement can quickly and easily be installed in and removed from \*\*\*washing\*\*\* \*\*\*machines\*\*\* of the aforementioned type.

CLMN 8

GI 5 Drawing Sheet(s), 5 Figure(s).

L20 ANSWER 28 OF 61 IFIPAT COPYRIGHT 2002 IFI  
AN 2355950 IFIPAT;IFIUDB;IFICDB  
TI AUTOMATIC \*\*\*DISPENSING\*\*\* APPARATUS  
INF Reinhard, Roger A, Greensboro, NC  
IN Reinhard Roger A  
PAF ~~Kay Chemical Company~~, Greensboro, NC  
PA Kay Chemical Co (18396)  
EXNAM Coe, Philip R  
AG Finnegan, Henderson, Farabow, Garrett & Dunner  
PI US 5207080 19930504 (CITED IN 006 LATER PATENTS)  
AI US 1992-836831 19920219  
XPD 19 Feb 2012  
FI US 5207080 19930504  
DT UTILITY  
FS MECHANICAL  
MRN 006079 MFN: 0875  
CLMN 30

GI 4 Drawing Sheet(s), 4 Figure(s).

AB A \*\*\*dispensing\*\*\* apparatus for automatically \*\*\*dispensing\*\*\*  
\*\*\*detergent\*\*\* into a \*\*\*laundry\*\*\* \*\*\*machine\*\*\*. The  
electrical current drawn by the \*\*\*laundry\*\*\* \*\*\*machine\*\*\* is  
monitored by a detecting device to detect when the electrical current  
exceeds a predetermined threshold current. When the electrical current  
exceeds the threshold current, the detecting device transmits a signal  
indicating that \*\*\*detergent\*\*\* should be conveyed from the  
\*\*\*detergent\*\*\* supply to the washtub of the \*\*\*laundry\*\*\*  
\*\*\*machine\*\*\* by a conveying device. The signal is delayed for a  
predetermined period of time by a delay timer. After the delay, the  
conveying device is controlled to convey the \*\*\*detergent\*\*\*. If the  
washing process is interrupted for less than a predetermined period of  
time, a dwell timer prevents multiple conveyance of \*\*\*detergent\*\*\*  
into the washtub.

CLMN 30

GI 4 Drawing Sheet(s), 4 Figure(s).

L20 ANSWER 29 OF 61 IFIPAT COPYRIGHT 2002 IFI  
AN 2354112 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*DEVICE\*\*\* FOR \*\*\*WASHING\*\*\* \*\*\*MACHINES\*\*\* TO CONTROL THE  
INTRODUCTION OF \*\*\*DETERGENT\*\*\*  
INF Bravin, Daniele, Azzano X, IT  
IN Bravin Daniele (IT)  
PAF Zanussi Elettrodomestici SpA, Pordenone, IT  
PA Zanussi Elettrodomestici SpA IT (19710)  
EXNAM Huson, Gregory L  
AG Pearne, Gordon, McCoy & Granger  
PI US 5205445 19930427  
AI US 1991-806050 19911212  
XPD 12 Dec 2011  
PRAI IT 1990-A45777 19901214  
FI US 5205445 19930427  
DT UTILITY; REASSIGNED; CERTIFICATE OF CORRECTION  
CDAT 11 Jan 1994  
FS MECHANICAL  
MRN 005950 MFN: 0866  
CLMN 1



GI 2 Drawing Sheet(s), 3 Figure(s).

AB A \*\*\*device\*\*\* for \*\*\*washing\*\*\* \*\*\*machines\*\*\* to control the introduction of \*\*\*detergent\*\*\*. It is intended especially for \*\*\*washing\*\*\* \*\*\*machines\*\*\* and combined \*\*\*machines\*\*\* for the \*\*\*washing\*\*\* and drying of \*\*\*laundry\*\*\*, which have a microprocessor and a distributor with several separate compartments for the \*\*\*detergents\*\*\* and additives to be introduced into the machine tub during the \*\*\*laundry\*\*\* -washing cycle, and which are equipped as well with a selector 13 that may be set to the several compartments by means of two jointed levers 15 and 16. One such lever 15 is associated with two PTC sensors 20 and 21 containing wax which is heated when such sensors are powered. According to the invention, the device includes the connection of the PTC sensors 20 and 21 to a triac 32 powered by the machine electric circuit through a diode 34 and 35 for the purpose, so as to allow one, the other, or both PTC sensors 20 and 21 to be turned ON for every positive or negative half-wave of the electric current. This, in turn, causes the displacement of the selector 13 by means of the levers 15 and 16 to the corresponding regulatory position. A device made in this way proves to be simple and operationally reliable.

CLMN 1

GI 2 Drawing Sheet(s), 3 Figure(s).

L20 ANSWER 31 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2321978 IFIPAT;IFIUDB;IFICDB

TI COMBINED CLOSURE AND \*\*\*MEASURING\*\*\* DEVICE

INF Britt, William J, Zionsville, IN

Silvenis, Scott A, Midland, MI

IN Britt William J; Silvenis Scott A

PAF The Dow Chemical Company, Midland, MI

PA Dow Chemical Co The (24712)

EXNAM Skaggs, H Grant

PI US 5176292 19930105

AI US 1990-566881 19900813

DCD 3 May 2005

XPD 5 Jan 2010

RLI US 1988-166886 19880311 CONTINUATION ABANDONED

US 1989-378446 19890707 CONTINUATION ABANDONED

US 1986-842617 19860321 DIVISION 4741459

FI US 5176292 19930105

US 4741459

DT UTILITY; EXPIRED

FS MECHANICAL

MRN 006011 MFN: 0068

CLMN 1

GI 3 Drawing Sheet(s), 8 Figure(s).

AB A closure and \*\*\*dispensing\*\*\* \*\*\*device\*\*\* for \*\*\*laundry\*\*\* products which permits precise \*\*\*dispensing\*\*\* of small amounts as well as the \*\*\*dispensing\*\*\* of large amounts for large washloads.

CLMN 1

GI 3 Drawing Sheet(s), 8 Figure(s).

L20 ANSWER 33 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2309870 IFIPAT;IFIUDB;IFICDB

TI \*\*\*WASHING\*\*\* - \*\*\*MACHINE\*\*\*

INF Geiger, Peter, Balingen, DE

IN Geiger Peter (DE)

PAF BSG-Schaltechnik GmbH & Co, KG, Balingen, DE

PA BSG Schalttechnik GmbH and Co KG DE

EXNAM Stinson, Frankie L

AG Darby & Darby

PI US 5165260 19921124 (CITED IN 005 LATER PATENTS)

WO 9013698 19901115

AI US 1991-635179 19910103

WO 1990-EP681 19900427

19910103 PCT 371 date

19910103 PCT 102(e) date

XPD 27 Apr 2010

PRAI DE 1989-3914644 19890503

FI US 5165260 19921124

DT UTILITY; EXPIRED

FS MECHANICAL

MRN 005677 MFN: 0711

CLMN 17

GI 5 Drawing Sheet(s), 8 Figure(s).

AB PCT No. PCT/EP90/00681 Sec. 371 Date Jan. 3, 1991 Sec. 102(e) Date Jan. 3, 1991 PCT Filed Apr. 27, 1990 PCT Pub. No. WO90/13698 PCT Pub. Date Nov. 15, 1990. In connection with a machine for the treatment of \*\*\*laundry\*\*\*, in particular a \*\*\*washing\*\*\* - \*\*\*machine\*\*\* or drier, comprising weight sensors for automatic \*\*\*measurements\*\*\* of the weight of the \*\*\*laundry\*\*\* and subsequent determination of the quantities of treatment agents to be filled in (water, \*\*\*detergents\*\*\*, or the like), for determining the relative humidity content, for detecting and removing imbalance conditions, it is proposed to arrange a decoupling frame between an outer housing resting on a stationary supporting \*\*\*surface\*\*\*, and the entire inner system of the \*\*\*washing\*\*\* - \*\*\*machine\*\*\* or dryer, including the lye tank with drum and other partial components, the decoupling frame being itself resiliently suspended in the outer housing and supporting all the other components, and to provide weight sensors, preferable resistance strain gauges, which coact with the resilient suspension of the decoupling frame.

CLMN 17

GI 5 Drawing Sheet(s), 8 Figure(s).

L20 ANSWER 34 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2266417 IFIPAT;IFIUDB;IFICDB

TI STIRRING \*\*\*DEVICE\*\*\* ; \*\*\*WASHING\*\*\* OF \*\*\*GARMENTS\*\*\*

INF Coigley, Joseph H, 34 Hawkes St, Saugus, MA, 01906

IN Coigley Joseph H

PAF Unassigned

PA Unassigned Or Assigned To Individual (68000)

EXNAM Hornsby, Harvey C

EXNAM Alexander, Reginald L

AG Gilden, Leon

PI US 5125751 19920630

AI US 1991-714917 19910613

XPD 13 Jun 2011

FI US 5125751 19920630

DT UTILITY; EXPIRED

FS MECHANICAL

CLMN 2

GI 4 Drawing Sheet(s), 8 Figure(s).

AB An organization is provided with an elongate handle formed with a mounting cap at a forward end thereof, with a 'Y' shaped support

bracket mounted to the mounting cap mounted to a serpentine stirring member thereon, wherein the serpentine member is oriented orthogonally relative to an axis defined by the cylindrical mounting cap. The organization is utilized for the stirring of elastomeric garments and the like in a washing procedure. A modification of the invention includes an elongate flexible handle permitting agitation of the stirring member, with a selectively insertable stiffening rod to provide selective stiffening of the handle when desired. Further, the organization may include agitating tubes securable to the stirring member for enhanced agitation and \*\*\*dispensing\*\*\* of a \*\*\*soap\*\*\* \*\*\*mixture\*\*\* therefrom.

CLMN 2

GI 4 Drawing Sheet(s), 8 Figure(s).

L20 ANSWER 35 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 2229515 IFIPAT;IFIUDB;IFICDB

TI ADDITIVE FLUID \*\*\*DISPENSER\*\*\* NOZZLE

INF Quinn, William R, Swampscott, MA

IN Quinn William R

PAF Raytheon Company, Lexington, MA

PA Raytheon Co (69864)

EXNAM Coe, Philip R

AG Clark, William R

Sharkansky, Richard M

PI US 5092141 19920303 (CITED IN 009 LATER PATENTS)

AI US 1991-725939 19910627

XPD 28 Dec 2009

RLI US 1989-458219 19891228 CONTINUATION ABANDONED

US 1990-609058 19901105 CONTINUATION ABANDONED

FI US 5092141 19920303

DT UTILITY; REASSIGNED

FS MECHANICAL

CLMN 16

GI 2 Drawing Sheet(s), 6 Figure(s).

AB A \*\*\*clothes\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\* including a cabinet having an upper wall portion provided with a clothes receiving opening, an annular cowling within the cabinet and having an inner peripheral portion encircling the clothes receiving opening, the cowling having an annular midportion sloped radially downward to an outer peripheral portion of the cowling which is secured to a rim of a drain tub defining an open end thereof, the drain tub having rotatably supported therein a spin tub with an opening disposed within the open end portion of the drain tub and aligned with the clothes receiving opening, and a liquid \*\*\*soap\*\*\* \*\*\*dispensing\*\*\* system disposed within the cabinet and externally of the drain tub, the \*\*\*soap\*\*\* \*\*\*dispensing\*\*\* system comprising a multi-load reservoir of liquid \*\*\*soap\*\*\* connected hydraulically through a pump to a nozzle having a drain tube with a spout end portion adjacent the inner peripheral portion of the cowling and encircling a delivery tube which is disposed longitudinally and eccentrically within the drain tube, the delivery tube having an input end portion connected hydraulically to the pump and having an opposing spout end portion recessed axially within the spout end portion of the drain tube, the spout end portion of the delivery tube being conically shaped and having extended through a sloped wall portion thereof an outlet orifice which is aligned with a target aperture in the cowling overlooking the opening in the spin tub.

CLMN 16

GI 2 Drawing Sheet(s), 6 Figure(s).

L20 ANSWER 36 OF 61 IFIPAT COPYRIGHT 2002 IFI  
AN 2198132 IFIPAT;IFIUDB;IFICDB  
TI \*\*\*DETERGENT\*\*\* \*\*\*DISPENSER\*\*\* FOR \*\*\*CLOTHES\*\*\*  
\*\*\*WASHING\*\*\* \*\*\*MACHINES\*\*\* OR THE LIKE  
INF Ikeda, Yoshio, Aichi, JP  
Okazaki, Kiyoshi, Seto, JP  
IN Ikeda Yoshio (JP); Okazaki Kiyoshi (JP)  
PAF Kabushiki Kaisha Toshiba, Kanagawa, JP  
PA Toshiba Corp JP (10641)  
EXNAM Shaver, Kevin P  
AG Shaw, Jr, Philip M  
PI US 5063757 19911112 (CITED IN 001 LATER PATENTS)  
AI US 1990-516782 19900430  
XPD 30 Apr 2010  
PRAI JP 1989-120120 19890513  
JP 1989-120977 19890515  
JP 1989-120978 19890515  
JP 1989-123656 19890516  
FI US 5063757 19911112  
DT UTILITY  
FS MECHANICAL  
MRN 005298 MFN: 0430  
CLMN 6

GI 6 Drawing Sheet(s), 13 Figure(s).

AB A \*\*\*detergent\*\*\* \*\*\*dispenser\*\*\* for \*\*\*clothes\*\*\*  
\*\*\*washing\*\*\* \*\*\*machines\*\*\* includes a \*\*\*detergent\*\*\*  
container for containing a predetermined amount of powdered  
\*\*\*detergent\*\*\*, the \*\*\*detergent\*\*\* container having a lower  
discharge outlet from which the \*\*\*detergent\*\*\* contained therein is  
discharged and a \*\*\*detergent\*\*\* fall preventing member displaced  
between a first position where the \*\*\*detergent\*\*\* is prevented from  
falling out from the discharge outlet of the container and a second  
position where the \*\*\*detergent\*\*\* discharged from the discharge  
outlet of the \*\*\*detergent\*\*\* container is allowed to fall out  
therefrom.

CLMN 6

GI 6 Drawing Sheet(s), 13 Figure(s).

L20 ANSWER 37 OF 61 IFIPAT COPYRIGHT 2002 IFI  
AN 2114365 IFIPAT;IFIUDB;IFICDB  
TI HIGH PERFORMANCE WASHING PROCESS FOR VERTICAL AXIS AUTOMATIC WASHER;  
ROTATION, \*\*\*MIXING\*\*\* WITH WASH LIQUID IN INCREMENTS  
INF Cur, Nihat O, St Joseph Township, Berrien County, MI  
Euler, John W, St Joseph, MI  
Hardaway, Anthony H, Lincoln Township, Berrien County, MI  
Pastryk, Jim J, Weesaw Township, Berrien County, MI  
IN Cur Nihat O; Euler John W; Hardaway Anthony H; Pastryk Jim J  
PAF Whirlpool Corporation, Benton Harbor, MI  
PA Whirlpool Corp (92000)  
EXNAM Coe, Philip R  
AG Hill, Van Santen, Steadman & Simpson  
PI ~~US 4987627~~ 19910129 (CITED IN 011 LATER PATENTS)  
AI US 1990-461404 19900105  
XPD 5 Jan 2010  
FI US 4987627 19910129

DT UTILITY  
FS CHEMICAL MECHANICAL  
CHEMICAL  
MECHANICAL

MRN 005230 MFN: 0538

CLMN 29

GI 7 Drawing Sheet(s), 12 Figure(s).

AB A method for \*\*\*laundrying\*\*\* a textile wash load is provided for use in a vertical axis \*\*\*washing\*\*\* \*\*\*machine\*\*\* in which a concentrated \*\*\*detergent\*\*\* solution is continuously applied to a spinning wash load for a predetermined time period to thoroughly wet the clothes load. The initial charge of \*\*\*detergent\*\*\* is thoroughly \*\*\*mixed\*\*\* with the \*\*\*detergent\*\*\* in a recirculation step before being applied to the \*\*\*clothes\*\*\* load. The concentration \*\*\*wash\*\*\* liquid is incrementally applied to the spinning clothes load until a sufficient amount of wash liquid is detected as having been introduced to the wash zone. That amount of wash liquid is then recirculated and reapplied to the clothes load for a predetermined length of time. After the time period, additional water is added to the solution to dilute it to a normal concentration and then mechanical agitation and rinsing steps are conducted to complete the wash cycle.

CLMN 29

GI 7 Drawing Sheet(s), 12 Figure(s).

L20 ANSWER 38 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1982583 IFIPAT;IFIUDB;IFICDB

TI APPARATUS FOR CONTROLLING A \*\*\*SOAP\*\*\* CONCENTRATION IN CLEANING SOLVENT

INF Hayashi, Takahiro, Otsu, JP  
Nakata, Takeshi, Otsu, JP

IN HAYASHI TAKAHIRO (JP); NAKATA TAKESHI (JP)

PAF Sanyo Electric Co, Ltd, JP

PA SANYO ELECTRIC CO LTD JP (74128)

EXNAM Nilson, Robert G

AG Darby & Darby

PI US 4867193 19890919 (CITED IN 006 LATER PATENTS)

AI US 1989-302438 19890126

XPD 26 Jan 2009

PRAI JP 1988-23367 19880202

FI US 4867193 19890919

DT UTILITY; REASSIGNED

FS MECHANICAL

MRN 005022 MFN: 0391

005034 0937

CLMN 8

GI 12 Drawing Sheet(s), 18 Figure(s).

AB A \*\*\*soap\*\*\* concentration control apparatus comprising: a pump for supplying a cleaning solvent to a washing tub; a liquid quantity sensor for \*\*\*measuring\*\*\* a quantity of the solvent supplied to the washing tub by the pump; a \*\*\*soap\*\*\* supplying pump for supplying a \*\*\*soap\*\*\* to the washing tub; a sampling container for sampling the solvent; a \*\*\*soap\*\*\* concentration \*\*\*measuring\*\*\* sensor for \*\*\*measuring\*\*\* a \*\*\*soap\*\*\* concentration in the sampled solvent; a setting device for setting a desired \*\*\*soap\*\*\* concentration; an arithmetic device for calculating an operating time of the \*\*\*soap\*\*\* supplying pump required for making a \*\*\*soap\*\*\* concentration of the solvent in the washing tub approach to the set desired \*\*\*soap\*\*\*

concentration on the basis of the \*\*\*measured\*\*\* quantity of solvent,  
the \*\*\*measured\*\*\* \*\*\*soap\*\*\* concentration and the \*\*\*soap\*\*\*  
supplying capacity per unit time of the \*\*\*soap\*\*\* supplying pump;  
and a controller for operating the \*\*\*soap\*\*\* supplying pump on the  
basis of the calculation result of the arithmetic device, which is useful  
to maintain a desired \*\*\*soap\*\*\* concentration in the dry  
\*\*\*cleaning\*\*\* \*\*\*machine\*\*\* thereby providing a constant finish of  
the \*\*\*laundry\*\*\* .

CLMN 8

GI 12 Drawing Sheet(s), 18 Figure(s).

L20 ANSWER 39 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1977808 IFIPAT;IFIUDB;IFICDB

TI \*\*\*DETERGENT\*\*\* \*\*\*DISPENSING\*\*\* SYSTEM FOR \*\*\*CLOTHES\*\*\*  
\*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\* OR THE LIKE

INF Ikeda, Yoshio, Aichi, JP

Torita, Fumio, Aichi, JP

IN IKEDA YOSHIO (JP); TORITA FUMIO (JP)

PAF Kabushiki Kaisha Toshiba, Kawasaki, JP

PA TOSHIBA CORP JP (10641)

EXNAM Coe, Philip R

EXNAM Gerrity, Stephen F

AG Foley & Lardner, Schwartz, Jeffery, Schwaab, Mack, Blumenthal & Evans

PI US 4862711 19890905

AI US 1988-251988 19880929

XPD 6 Feb 2007

RLI US 1987-12207 19870206 CONTINUATION

PRAI JP 1986-31405 19860215

JP 1986-129714 19860604

FI US 4862711 19890905

DT UTILITY

FS MECHANICAL

CLMN 6

GI 8 Drawing Sheet(s), 9 Figure(s).

AB A \*\*\*detergent\*\*\* \*\*\*dispensing\*\*\* system for \*\*\*clothes\*\*\*  
\*\*\*washing\*\*\* \*\*\*machines\*\*\* consists of a \*\*\*detergent\*\*\*  
containing hopper having a \*\*\*detergent\*\*\* discharging passageway  
having the section of approximately semicircular configuration and formed  
at the bottom portion, a spiral coil arranged in the \*\*\*detergent\*\*\*  
discharging passageway and discharging the powdered \*\*\*detergent\*\*\*  
contained in the hopper by screw action caused by its rotation so that  
the powdered \*\*\*detergent\*\*\* is \*\*\*dispensed\*\*\* to a \*\*\*wash\*\*\*  
tub of a \*\*\*clothes\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\* , an  
electric motor for driving the coil, a first manually operated switch for  
inputting data of a kind of the powdered \*\*\*detergent\*\*\* to be  
\*\*\*dispensed\*\*\* , a second manually operated switch for inputting data  
of degree of soil of \*\*\*clothes\*\*\* to be \*\*\*washed\*\*\* , a third  
manually operated switch for inputting data of a water level to set the  
water level in the wash tub, and a controller for controlling the  
rotation speed of the coil so that the amount of the powdered  
\*\*\*detergent\*\*\* to be \*\*\*dispensed\*\*\* takes a value in accordance  
with the kind of the powdered \*\*\*detergent\*\*\* , the degree of soil of  
the \*\*\*clothes\*\*\* to be \*\*\*washed\*\*\* and the water level the data  
of which are supplied from the first, second and third manually operated  
switches respectively.

CLMN 6

GI 8 Drawing Sheet(s), 9 Figure(s).

L20 ANSWER 40 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1973240 IFIPAT;IFIUDB;IFICDB

TI CHEMICAL SOLUTION \*\*\*DISPENSER\*\*\* APPARATUS AND METHOD OF USING

INF Lehn, Chris F, Minneapolis, MN

IN LEHN CHRIS F

PAF ~~Ecobab Inc~~, St Paul, MN

PA ECOLAB INC (25992)

EXNAM Stinson, Frankie L

AG Merchant, Gould, Smith, Edell, Welter & Schmidt

PI US 4858449 19890822 (CITED IN 016 LATER PATENTS)

AI US 1986-817350 19860109

XPD 22 Aug 2006

FI US 4858449 19890822

DT UTILITY

FS MECHANICAL

MRN 004537 MFN: 0831

004706 0547

CLMN 25

GI 5 Drawing Sheet(s), 7 Figure(s).

AB An automatic \*\*\*dispenser\*\*\* for \*\*\*dispensing\*\*\* solid chemicals used in cleaning processes which includes (i) means for initiating \*\*\*dispensing\*\*\* of a concentrated chemical solution, (ii) means for forming a concentrated chemical solution, (iii) means for directing the concentrated chemical solution to its utilization point, (iv) means for \*\*\*measuring\*\*\* the conductivity and temperature of the concentrated chemical solution \*\*\*dispensed\*\*\*, (v) means for calculating the amount of chemical \*\*\*dispensed\*\*\* based upon the conductivity and temperature of the concentrated chemical solution \*\*\*dispensed\*\*\*, and (vi) means for terminating formation of the concentrated chemical solution when a predetermined amount of chemical has been \*\*\*dispensed\*\*\*.

CLMN 25

GI 5 Drawing Sheet(s), 7 Figure(s).

L20 ANSWER 41 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1959870 IFIPAT;IFIUDB;IFICDB

TI METHOD AND APPARATUS FOR \*\*\*DISPENSING\*\*\* SOLUTIONS; \*\*\*LAUNDRY\*\*\* WASHING SYSTEM

INF Brady, Daniel F, Eagan, MN

Copeland, James L, Burnsville, MN

IN BRADY DANIEL F; COPELAND JAMES L

PAF ~~Ecobab Inc~~, St Paul, MN

PA ECOLAB INC (25992)

EXNAM Stinson, Frankie L

AG Merchant, Gould, Smith, Edell, Welter & Schmidt

PI US 4845965 19890711 (CITED IN 018 LATER PATENTS)

AI US 1986-945908 19861223

XPD 23 Dec 2006

FI US 4845965 19890711

DT UTILITY

FS MECHANICAL

MRN 004652 MFN: 0172

004706 0547

CLMN 21

GI 3 Drawing Sheet(s), 3 Figure(s).

AB A \*\*\*dispenser\*\*\* suitable for \*\*\*dispensing\*\*\* multiple

solutions to, preferably, multiple utilization points. A \*\*\*laundry\*\*\* washing system (18) according to the invention includes a \*\*\*dispenser\*\*\* (20) which \*\*\*dispenses\*\*\* a plurality of cleaning solution to a plurality of \*\*\*washing\*\*\* \*\*\*machines\*\*\* (72) through a single common conduit (25). Conduit (25) is flushed after \*\*\*dispensing\*\*\* one solution but before \*\*\*dispensing\*\*\* a second chemically incompatible solution. A preferred \*\*\*dispenser\*\*\* (20) is capable of servicing multiple \*\*\*laundry\*\*\* \*\*\*machines\*\*\* (72) using a first-in first-out approach wherein the machines request service from a control system (74) which temporarily disables any 'late-comers' until the appropriate solution can be \*\*\*dispensed\*\*\* to the machine (72) making the first, or highest priority, request.

CLMN 21

GI 3 Drawing Sheet(s), 3 Figure(s).

L20 ANSWER 42 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1943302 IFIPAT;IFIUDB;IFICDB

TI AUTOMATIC SYSTEM FOR DISSOLVING DRY \*\*\*DETERGENT\*\*\*

INF Gulmatico, Jr, Ramon, 4200 Stanbridge Ave, Long Beach, CA, 90808

IN GULMATICO RAMON JR

PAF Unassigned

PA UNASSIGNED OR ASSIGNED TO INDIVIDUAL (68000)

EXNAM Jenkins, Robert W

AG Thomas, Charles H

PI ~~US 4830509~~ 19890516 (CITED IN 004 LATER PATENTS)

AI US 1988-207547 19880616

XPD 16 Jun 2008

FI US 4830509 19890516

DT UTILITY; EXPIRED

FS MECHANICAL

CLMN 20

GI 4 Drawing Sheet(s), 5 Figure(s).

AB A device is provided for dissolving dry \*\*\*detergent\*\*\* to provide a liquid \*\*\*detergent\*\*\* solution to \*\*\*washing\*\*\* \*\*\*machines\*\*\* in a \*\*\*laundry\*\*\*. A tank is divided into upper and lower compartments. The upper compartment drains into the lower compartment when a tank valve therebetween is opened, and the compartments are maintained in mutual isolation when the tank valve is closed. High and low liquid level sensors in the upper compartment control \*\*\*mixing\*\*\* and \*\*\*dispensation\*\*\* of \*\*\*detergent\*\*\* solution. A quantity of dry, solid powdered \*\*\*detergent\*\*\* is \*\*\*mixed\*\*\* with a predetermined quantity of water in the upper compartment while the upper and lower compartments are isolated from each other during a \*\*\*mixing\*\*\* cycle. During the \*\*\*mixing\*\*\* cycle the lower compartment serves as a reservoir for supplying liquid \*\*\*detergent\*\*\* solution to one or more \*\*\*washing\*\*\* \*\*\*machines\*\*\*. Following the \*\*\*mixing\*\*\* cycle, the contents of the upper compartment are allowed to drain into the lower compartment.

CLMN 20

GI 4 Drawing Sheet(s), 5 Figure(s).

L20 ANSWER 44 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1595473 IFIPAT;IFIUDB;IFICDB

TI AUTOMATIC \*\*\*DISPENSER\*\*\* FOR A \*\*\*DETERGENT\*\*\*

INF Eknor, Per O E, Huskvarna, SE

IN EKNOR PER O (SE)

PAF Aktiebolaget Electrolux, Stockholm, SE



PA ELECTROLUX AB SE (27096)  
 EXNAM Rolla, Joseph J  
 EXNAM Huppert, Michael S  
 AG Miller, Alfred E  
 PI US 4516696 19850514 (CITED IN 001 LATER PATENTS)  
 WO 8200753 19820318  
 AI US 1984-578988 19840213  
 WO 1981-SE225 19810810  
 19820416 PCT 371 date  
 19820416 PCT 102(e) date  
 XPD 14 May 2002  
 RLI US 1982-375031 19820416 CONTINUATION ABANDONED  
 PRAI SE 1980-6035 19800828  
 FI US 4516696 19850514  
 DT UTILITY; EXPIRED  
 FS MECHANICAL  
 CLMN 4  
 GI 1 Drawing Sheet(s), 2 Figure(s).  
 AB PCT No. PCT/SE81/00225 Sec. 371 Date Apr. 16, 1982 Sec. 102(e) Date Apr. 16, 1982 PCT Filed Aug. 10, 1981 PCT Pub. No. WO82/00753 PCT Pub. Date Mar. 18, 1982. Automatic \*\*\*dispenser\*\*\* for a \*\*\*detergent\*\*\* in the form of a paste in a dish or \*\*\*laundry\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\*. The inventive device generally comprises a cartridge-container of common type and a feeding device comprising a motor driven piston rod and a piston. The assembly is positioned in a suitable location in the machine, for example in its door. To facilitate exchange of the cartridge, the piston rod is easily removable by means of a support wheel which can be swung out and which is kept in working position by a resilient latch. The quantity of the portion is controlled by a current pulse from the program control device of the machine.  
 CLMN 4  
 GI 1 Drawing Sheet(s), 2 Figure(s).  
 L20 ANSWER 45 OF 61 IFIPAT COPYRIGHT 2002 IFI  
 AN 1563463 IFIPAT;IFIUDB;IFICDB  
 TI \*\*\*METERING\*\*\* METHOD FOR SUPPLYING \*\*\*DETERGENT\*\*\* CONCENTRATE; MINIMIZES CAKING  
 INF Haslberger, Richard, Hallabruck, DE  
 Saalman, Gunter, Gevelsberg, DE  
 IN HASLBERGER RICHARD (DE); SAALMANN GUNTER (DE)  
 PAF Lang Apparatebau GmbH, Siegsdorf, DE  
 PA LANG APPARATEBAU GMBH DE (11753)  
 EXNAM Coe, Philip R  
 AG Hammond & Littell, Weissenberger & Dippert  
 PI US 4486910 19841211 (CITED IN 002 LATER PATENTS)  
 AI US 1982-371132 19820423  
 XPD 23 Apr 2002  
 PRAI DE 1981-3118973 19810513  
 FI US 4486910 19841211  
 DT UTILITY; EXPIRED; CERTIFICATE OF CORRECTION  
 CDAT 3 Sep 1985  
 FS CHEMICAL MECHANICAL  
 CHEMICAL  
 MECHANICAL  
 CLMN 2  
 GI 1 Drawing Sheet(s), 1 Figure(s).  
 AB A method and apparatus for supplying dry \*\*\*detergent\*\*\* concentrate

to a \*\*\*metering\*\*\* device for dissolving or dispersing in water which prevents or minimizes the formation of dust, lumping, caking, and encrustation of vessel walls and supplies new \*\*\*detergent\*\*\* to the \*\*\*laundry\*\*\* plant in response to changes in electrical conductivity of the wash water from a predetermined value which indicates consumption of original \*\*\*detergent\*\*\* required in soil removal and need for replenishment thereof. The minimizing of dust and protection of the \*\*\*detergent\*\*\* from moisture is accomplished by using a flexible delivery container, the filling means and emptying means of which are sealable and which emptying means acts in cooperation with the \*\*\*metering\*\*\* apparatus section to form an integral delivery system which is generally isolated from the surrounding atmosphere.

CLMN 2

GI 1 Drawing Sheet(s), 1 Figure(s).

L20 ANSWER 46 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1538293 IFIPAT;IFIUDB;IFICDB

TI APPARATUS FOR SUPPLYING \*\*\*DETERGENT\*\*\* CONCENTRATE

INF Haslberger, Richard, Hallabruck, DE

Saalmann, Gunter, Gevelsberg, DE

IN HASLBERGER RICHARD (DE); SAALMANN GUNTER (DE)

PAF Lang Apparatebau GmbH, DE

PA LANG APPARATEBAU GMBH DE (11753)

EXNAM Coe, Philip R

AG Hammond & Littell, Weissenberger & Dippert

PI US 4463582 19840807 (CITED IN 011 LATER PATENTS)

AI US 1983-498693 19830527

XPD 23 Apr 2002

RLI US 1982-371132 19820423 DIVISION

PRAI DE 1981-3118973 19810531

FI US 4463582 19840807

DT UTILITY; EXPIRED

FS MECHANICAL

MRN 004246 MFN: 0653

CLMN 2

GI 1 Drawing Sheet(s), 1 Figure(s).

AB A method and apparatus for supplying dry \*\*\*detergent\*\*\* concentrate to a \*\*\*metering\*\*\* device for dissolving or dispersing in water which prevents or minimizes the formation of dust, lumping, caking, and encrustation of vessel walls and supplies new \*\*\*detergent\*\*\* to the \*\*\*laundry\*\*\* plant in response to changes in electrical conductivity of the wash water from a predetermined value which indicates consumption of original \*\*\*detergent\*\*\* required in soil removal and need for replenishment thereof. The minimizing of dust and protection of the \*\*\*detergent\*\*\* from moisture is accomplished by using a flexible delivery container, the filling means and emptying means of which are sealable and which emptying means acts in cooperation with the \*\*\*metering\*\*\* apparatus section to form an integral delivery system which is generally isolated from the surrounding atmosphere.

CLMN 2

GI 1 Drawing Sheet(s), 1 Figure(s).

L20 ANSWER 48 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1364306 IFIPAT;IFIUDB;IFICDB

TI AUTOMATIC LIQUID LEVEL CONTROL; \*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\* WHICH MONITORS AND ADJUSTS WATER LEVEL AFTER LOADING; PROGRAMMABLE

INF Ross, Frank E, Newton, IA

IN ROSS FRANK E  
PAF The Maytag Company, Newton, IA  
PA MAYTAG CO THE (53280)

EXNAM Coe, Philip R

AG Ward, Richard L

PI US 4303406 19811201 (CITED IN 027 LATER PATENTS)

AI US 1980-130470 19800314

XPD 14 Mar 2000

FI US 4303406 19811201

DT UTILITY; REASSIGNED

FS CHEMICAL

CLMN 11

GI 3 Drawing Sheet(s), 6 Figure(s).

AB An automatic liquid level control system is provided for a  
\*\*\*laundry\*\*\* appliance having a tub and a perforate fabric basket  
within the tub. Washing liquid is \*\*\*injected\*\*\* onto the  
\*\*\*surface\*\*\* of fabrics to be \*\*\*laundered\*\*\*. A portion of the  
washing liquid will be absorbed by the fabrics and a portion will flow  
through the fabrics and fabric basket perforations for accumulation in  
the tub. Sensing devices are provided for monitoring the changing liquid  
level in the tub and the time required to reach predetermined levels. A  
programmable controller determines the quantity of additional liquid  
required to \*\*\*launder\*\*\* the fabric load responsive to the sensing  
devices and commensurate with the load characteristics and controls the  
\*\*\*injection\*\*\* thereof onto the fabrics.

CLMN 11

GI 3 Drawing Sheet(s), 6 Figure(s).

L20 ANSWER 50 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 1032954 IFIPAT;IFIUDB;IFICDB

TI FINE TIMING APPARATUS FOR ELECTRONIC \*\*\*DETERGENT\*\*\*  
\*\*\*DISPENSING\*\*\* SYSTEM

INF Kleimola, David L, St Paul, MN

Nystuen, David L, Bloomington, MN

Nystuen, Marcus I, St Paul, MN

IN KLEIMOLA DAVID L; NYSTUEN DAVID L; NYSTUEN MARCUS I

PAF Economics Laboratory, Inc, St Paul, MN

PA ~~ECOLAB INC~~ (25992)

EXNAM Tollberg, Stanley H

EXNAM Shannon, John P

AG Merchant, Gould, Smith, Edell, Welter & Schmidt

PI US 3982666 19760928 (CITED IN 009 LATER PATENTS)

AI US 1975-561373 19750324

XPD 28 Sep 1993

RLI US 1971-210669 19711222 DIVISION

ABANDONED

US 1973-335136 19730223 DIVISION

3881328

FI US 3982666 19760928

US 3881328

DT UTILITY

FS MECHANICAL

CLMN 4

GI 1 Drawing Sheet(s), 3 Figure(s).

AB A \*\*\*detergent\*\*\* \*\*\*dispensing\*\*\* system for sequentially and  
automatically \*\*\*injecting\*\*\* various liquid products (e.g.,  
\*\*\*detergents\*\*\*, fabric conditioners, neutralizers, etc.) into a  
\*\*\*laundry\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\*. Each liquid product  
is independently connected to a venturiaspirator positioned within

separate carrier fluid conduits (e.g. water conduits) and the product is drawn into the respective carrier fluid conduits upon passage of carrier fluid therethrough. Electrical control circuitry, including electrical timing apparatus, triggered by a signaling device synchronized with the \*\*\*machine\*\*\* \*\*\*washing\*\*\* cycle selectively actuates and deactuates a solenoid-operated valve positioned upstream of each venturi-aspirator so as to allow \*\*\*injection\*\*\* into the carrier fluid of a predetermined quantity of each liquid product at the desired point in the machine cycle.

CLMN 4

GI 1 Drawing Sheet(s), 3 Figure(s).

L20 ANSWER 51 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0977425 IFIPAT;IFIUDB;IFICDB

TI \*\*\*LAUNDRY\*\*\* \*\*\*WASHING\*\*\* AND DRYING \*\*\*MACHINE\*\*\*

INF de Hedouville, Philippe, Feuquieres-en-Vimeu, FR

IN DE HEDOUVILLE PHILIPPE

PAF US Philips Corporation, New York, NY

PA U S PHILIPS CORP (60616)

EXNAM Hornsby, Harvey C

EXNAM Coe, Philip R

AG Treacy, David R

Trifari, Frank R

PI US 3927542 19751223

AI US 1974-441972 19740213

XPD 23 Dec 1992

PRAI FR 1973-5802 19730219

FI US 3927542 19751223

DT UTILITY; REASSIGNED

FS MECHANICAL

CLMN 1

GI 4 Drawing Sheet(s), 4 Figure(s).

AB A \*\*\*laundry\*\*\* \*\*\*washing\*\*\* and drying \*\*\*machine\*\*\* of small size and low weight, obtained by combining a tub with cut-off corners and a corresponding drum, suspended to damping springs and held in position by friction devices which are situated between the tub and the base. The funnel with the \*\*\*detergent\*\*\* \*\*\*dispenser\*\*\* is independent of the housing.

CLMN 1

GI 4 Drawing Sheet(s), 4 Figure(s).

L20 ANSWER 53 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0930870 IFIPAT;IFIUDB;IFICDB

TI ELECTRONIC \*\*\*DETERGENT\*\*\* \*\*\*DISPENSING\*\*\* SYSTEM

INF Kleimola, David L, St Paul, MN

Nystuen, David L, Bloomington, MN

Nystuen, Marcus I, St Paul, MN

IN KLEIMOLA DAVID L; NYSTUEN DAVID L; NYSTUEN MARCUS I

PAF Economics Laboratory, Inc, St Paul, MN

PA ~~ECOLAB INC~~ (25992)

EXNAM Wihite, Billy J

EXNAM Coe, Philip R

AG Merchant, Gould, Smith & Edell

PI US 3881328 19750506 (CITED IN 021 LATER PATENTS)

AI US 1973-335136 19730223

XPD 6 May 1992

RLI US 1971-210669 19711222 DIVISION

ABANDONED

FI US 3881328 19750506

DT UTILITY

FS MECHANICAL

CLMN 2

GI 1 Drawing Sheet(s), 3 Figure(s).

AB A \*\*\*detergent\*\*\* \*\*\*dispensing\*\*\* system for sequentially and automatically \*\*\*injecting\*\*\* various liquid products (e.g., \*\*\*detergents\*\*\*, fabric conditioners, neutralizers, etc.) into a \*\*\*laundry\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\*. Each liquid product is independently connected to a venturiaspirator positioned within separate carrier fluid conduits (e.g. water conduits) and product is drawn into the respective carrier fluid conduits upon passage of carrier fluid therethrough. Electrical control means, including electrical timing apparatus, triggered by a signalling device synchronized with the \*\*\*machine\*\*\* \*\*\*washing\*\*\* cycle selectively actuates and deactuates a solenoidoperated valve positioned upstream of each venturi-aspirator so as to allow \*\*\*injection\*\*\* into the carrier fluid of a predetermined quantity of each liquid product at the desired point in the machine cycle.

CLMN 2

GI 1 Drawing Sheet(s), 3 Figure(s).

L20 ANSWER 54 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0897768 IFIPAT;IFIUDB;IFICDB

TI PRECLEANING A \*\*\*LAUNDRY\*\*\* \*\*\*WASHING\*\*\* \*\*\*MACHINE\*\*\*

INF Rottering, Quintin N, Newton, IA

IN ROTTERING Q

PAF The Maytag Company, Newton, IA

PA MAYTAG CO THE (53280)

EXNAM Hornsby, Harvey C

EXNAM Coe, Philip R

AG Landwier, William G

Ward, Richard L

PI US 3848436 19741119 (CITED IN 001 LATER PATENTS)

AI US 1973-335251 19730223

XPD 19 Nov 1991

FI US 3848436 19741119

DT UTILITY

FS MECHANICAL

CLMN 7

GI 2 Drawing Sheet(s), 5 Figure(s).

AB An optional preliminary operation in a \*\*\*laundry\*\*\* \*\*\*washing\*\*\* \*\*\*machine\*\*\* effects a precleaning or flushing of the fluid system including the fluid container, the pump, and the drain conduits to effectively remove residual vitiated fluid from the \*\*\*washing\*\*\* \*\*\*machine\*\*\* and thereby avoid intermixing of the residual fluid with the washing fluid for the succeeding washing operation.

CLMN 7

GI 2 Drawing Sheet(s), 5 Figure(s).

L20 ANSWER 56 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0735095 IFIPAT;IFIUDB;IFICDB

TI \*\*\*LAUNDERING\*\*\* SYSTEM

INF Rosenfeld, Howard, New York, NY

Wetzler, Justin J, Evanston, IL

IN ROSENFELD HOWARD; WETZLER JUSTIN J

PAF The Linen Supply Association of America, Miami Beach, FL

PA LINEN SUPPLY ASSOCIATION OF AM

EXNAM Scheel, Walter A

EXNAM Coe, Philip R

AG Williams, J N

PI US 3686899 19720829 (CITED IN 011 LATER PATENTS)

AI US 1970-55468 19700716

XPD 29 Aug 1989

FI US 3686899 19720829

DT UTILITY

FS MECHANICAL

CLMN 24

GI 6 Drawing Sheet(s), 12 Figure(s).

AB A \*\*\*laundering\*\*\* and finishing system for garments (such as no-iron garments) collected from a number of user sources of soiled garments includes a hanging zone, a washing zone including \*\*\*spray\*\*\* assemblies, a drying zone, and a conveyor network extending from the hanging station through the washing and drying zones, the conveyor network being adapted to support individual garments on hangers to hang loosely for washing and wrinkle-free drying in the zones, the hanging zone being arranged to enable a worker to hang soiled garments from one user source at a time in serial order upon an initial conveyor of the conveyor network, and the conveyor network being further adapted to discharge the garments in the same serial order so that garments originating from different sources of soiled garments are not \*\*\*mixed\*\*\*.

CLMN 24

GI 6 Drawing Sheet(s), 12 Figure(s).

L20 ANSWER 57 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0612773 IFIPAT;IFIUDB;IFICDB

TI CLEANSING AGENT \*\*\*DISPENSER\*\*\*

INF Grandclement, Gerard, Cap, FR

IN GRANDCLEMENT GERARD

PAF Eaton Yale & Towne Inc, Cleveland, OH

PA EATON CORP (25848)

EXNAM Coleman, Samuel F

AG Teagno & Toddy

PI US 3565291 19710223 (CITED IN 002 LATER PATENTS)

AI US 1968-771139 19681028

XPD 23 Feb 1988

PRAI FR 1967-126013 19671026

FI US 3565291 19710223

DT UTILITY

FS MECHANICAL

CLMN 5

GI 2 Drawing Sheet(s), 5 Figure(s).

AB A \*\*\*dispenser\*\*\* for \*\*\*detergents\*\*\* or the like to be used in dish or \*\*\*clothes\*\*\* \*\*\*washing\*\*\* \*\*\*machines\*\*\*. The \*\*\*dispenser\*\*\* includes a housing having preferably a pair of cavities therein for retaining \*\*\*detergent\*\*\*, with a cover overlying one of the cavities. \*\*\*Detergent\*\*\* from the exposed cavity is utilized in the first wash cycle and \*\*\*detergent\*\*\* from the covered cavity is released for the second wash cycle. The cover is held in this initial position by a tensioned torsion spring. A solenoid device coupled to a member around which the cover pivots serves to release the torsion spring in response to a signal from the washer timer-programmer. Rotation of the cover to expose the initially covered cavity is effected by the spring

energy.

CLMN 5

GI 2 Drawing Sheet(s), 5 Figure(s).

L20 ANSWER 58 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0416910 IFIPAT;IFIUDB;IFICDB

TI EGG \*\*\*CLEANING\*\*\* \*\*\*MACHINE\*\*\*

IN HALVERSON JAMES E

PA UNASSIGNED OR ASSIGNED TO INDIVIDUAL (68000)

PI US 3360817 19680102 (CITED IN 007 LATER PATENTS)

XPD 2 Jan 1985

FI US 3360817 19680102

DT UTILITY

FS MECHANICAL

L20 ANSWER 59 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0206590 IFIPAT;IFIUDB;IFICDB

TI AUTOMATIC SYSTEM FOR SUPPLYING ALKALI AND \*\*\*DETERGENT\*\*\* TO  
COMMERCIAL \*\*\*LAUNDRY\*\*\* \*\*\*WASHING\*\*\* \*\*\*MACHINES\*\*\*

IN HAMBRO HERBERT A

PA VERITAS CO INC

PI US 3160317 19641208 (CITED IN 024 LATER PATENTS)

XPD 8 Dec 1981

FI US 3160317 19641208

DT UTILITY

FS MECHANICAL

L20 ANSWER 60 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0178013 IFIPAT;IFIUDB;IFICDB

TI GRANULES \*\*\*DISPENSER\*\*\*

IN HALL WILLIAM BURKE; TORONGO ALBERT H JR

PA PROCTER & GAMBLE CO THE (68128)

PI US 3127067 19640331 (CITED IN 010 LATER PATENTS)

XPD 31 Mar 1981

FI US 3127067 19640331

DT UTILITY

FS MECHANICAL

L20 ANSWER 61 OF 61 IFIPAT COPYRIGHT 2002 IFI

AN 0149400 IFIPAT;IFIUDB;IFICDB

TI \*\*\*METERING\*\*\* \*\*\*DISPENSER\*\*\* FOR AUTOMATIC WASHERS

IN DEWEES THOMAS G; LUCAS MALCOLM B

PA PROCTER & GAMBLE CO THE (68128)

PI US 3101871 19630827 (CITED IN 004 LATER PATENTS)

XPD 27 Aug 1980

FI US 3101871 19630827

DT UTILITY

FS MECHANICAL

=> d his full

PREVIOUS MSG TOO LONG

d his full

(FILE 'HOME' ENTERED AT 16:22:40 ON 27 FEB 2002)  
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\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 Sep 17 IMSworld Pharmaceutical Company Directory name change  
to PHARMASEARCH  
NEWS 3 Oct 09 Korean abstracts now included in Derwent World Patents  
Index  
NEWS 4 Oct 09 Number of Derwent World Patents Index updates increased  
NEWS 5 Oct 15 Calculated properties now in the REGISTRY/ZREGISTRY File  
NEWS 6 Oct 22 Over 1 million reactions added to CASREACT  
NEWS 7 Oct 22 DGENE GETSIM has been improved  
NEWS 8 Oct 29 AAASD no longer available  
NEWS 9 Nov 19 New Search Capabilities USPATFULL and USPAT2  
NEWS 10 Nov 19 TOXCENTER(SM) - new toxicology file now available on STN  
NEWS 11 Nov 29 COPPERLIT now available on STN  
NEWS 12 Nov 29 DWPI revisions to NTIS and US Provisional Numbers  
NEWS 13 Nov 30 Files VETU and VETB to have open access  
NEWS 14 Dec 10 WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002  
NEWS 15 Dec 10 DGENE BLAST Homology Search  
NEWS 16 Dec 17 WELDASEARCH now available on STN  
NEWS 17 Dec 17 STANDARDS now available on STN  
NEWS 18 Dec 17 New fields for DPCI  
NEWS 19 Dec 19 CAS Roles modified  
NEWS 20 Dec 19 1907-1946 data and page images added to CA and Cplus  
NEWS 21 Jan 25 BLAST(R) searching in REGISTRY available in STN on the Web  
NEWS 22 Jan 25 Searching with the P indicator for Preparations  
NEWS 23 Jan 29 FSTA has been reloaded and moves to weekly updates  
NEWS 24 Feb 01 DKILIT now produced by FIZ Karlsruhe and has a new update  
frequency  
NEWS 25 Feb 19 Access via Tymnet and SprintNet Eliminated Effective 3/31/02  
  
NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.0d,  
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),  
AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

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ENTER COST CENTER (NONE):0592087

CHARGED TO COST=0592087

=> fil hca

FILE 'HCA' ENTERED AT 16:46:44 ON 20 FEB 2002  
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FILE COVERS 1907 - 14 Feb 2002 VOL 136 ISS 8  
FILE LAST UPDATED: 14 Feb 2002 (20020214/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAPLUS files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> s laund?

L1 15939 LAUND?

=> s (garment? or cloth?) (3a) (wash? or clean?)

3624 GARMENT?

37815 CLOTH?

375792 WASH?

184651 CLEAN?

L2 2117 (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)

=> s l1 or l2

L3 17728 L1 OR L2

=> s deterg? or soap? or surfac? or (use or stock) () (solut? or soln# or liq?)

93127 DETERG?

54337 SOAP?

1863006 SURFAC?

1388257 USE

2504557 USES

3652942 USE

(USE OR USES)

34162 STOCK

10631 STOCKS

42325 STOCK

(STOCK OR STOCKS)

492855 SOLUT?

2375945 SOLN#

1261541 LIQ?

8460 (USE OR STOCK) (W) (SOLUT? OR SOLN# OR LIQ?)

L4 1975302 DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) (W) (SOLUT? OR SOLN# OR LIQ?)

=> s l3 and l4 (3a) (meter? or measur? or dispens? or blend? or mix?)

31059 METER?  
 2232147 MEASUR?  
 11489 DISPENS?  
 207982 BLEND?  
 2322448 MIX?  
 67637 L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?)  
 L5 1147 L3 AND L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?)

=> s 15 and (inject? or pre()spot? or spray?)

578620 INJECT?  
 127069 PRE  
 691 PRES  
 127543 PRE  
 (PRE OR PRES)  
 83001 SPOT?  
 17 PRE(W)SPOT?  
 198840 SPRAY?  
 L6 180 L5 AND (INJECT? OR PRE(W)SPOT? OR SPRAY?)

=> s 16 not p/dt

3635793 P/DT  
 L7 7 L6 NOT P/DT

=> d ti 1-7

L7 ANSWER 1 OF 7 HCA COPYRIGHT 2002 ACS  
 TI **Dispenser** for **detergents** made from TPU: an engineering material for consumer goods

L7 ANSWER 2 OF 7 HCA COPYRIGHT 2002 ACS  
 TI Studies on rinsing-out ratio of granular laundry detergents in washing machines

L7 ANSWER 3 OF 7 HCA COPYRIGHT 2002 ACS  
 TI Application of sodium 2-ethylhexyl sulfate in **detergent** conditioning through cold **mixing** by atomization and **spraying**

L7 ANSWER 4 OF 7 HCA COPYRIGHT 2002 ACS  
 TI Use of the method for liquifying Glauber's salt in production of **laundry** powders

L7 ANSWER 5 OF 7 HCA COPYRIGHT 2002 ACS  
 TI Utilization of sodium gluconate in **detergent mixtures**

L7 ANSWER 6 OF 7 HCA COPYRIGHT 2002 ACS  
 TI A new British development in coal preparation

L7 ANSWER 7 OF 7 HCA COPYRIGHT 2002 ACS  
 TI American Society for Testing Materials, Standards, 1941 Supplement. III. Nonmetallic materials, general

=> d

L7 ANSWER 1 OF 7 HCA COPYRIGHT 2002 ACS  
 AN 120:166543 HCA  
 TI **Dispenser** for **detergents** made from TPU: an engineering material for consumer goods  
 AU Haettig, Juergen  
 CS Germany  
 SO Plastverarbeiter (1993), 44(5), 58-60  
 CODEN: PLARAN; ISSN: 0032-1338

DT Journal  
LA German

=> d bib abs 3

L7 ANSWER 3 OF 7 HCA COPYRIGHT 2002 ACS  
AN 105:174834 HCA  
TI Application of sodium 2-ethylhexyl sulfate in detergent  
conditioning through cold mixing by atomization and  
spraying  
AU Goliat, Lucia; Szekely, Georgy; Sacarescu, Bogdan; Maurer, Ewald; Stoica,  
Rodica  
CS ICECHIM, Bucharest, Rom.  
SO Rev. Chim. (Bucharest) (1986), 37(6), 479-82  
CODEN: RCBUAU  
DT Journal  
LA Romanian  
AB The properties of Na 2-ethylhexyl sulfate [126-92-1] (an anionic  
surfactant) and the results obtained when used in mixts. with  
granular detergents based on sulfated C12-18 fatty alcs. Na  
salts were described.

=> d his

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L1 15939 S LAUND?  
L2 2117 S (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 S L1 OR L2  
L4 1975302 S DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) () (SOLUT? OR SOL  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 S L5 AND (INJECT? OR PRE()SPOT? OR SPRAY?)  
L7 7 S L6 NOT P/DT

=> s l3 and l4(3a) (meter? or measur? or dispens? or blend? or mix? or inject? or pre()spot?  
or spray?)

31059 METER?  
2232147 MEASUR?  
11489 DISPENS?  
207982 BLEND?  
2322448 MIX?  
578620 INJECT?  
127069 PRE  
691 PRES  
127543 PRE  
(PRE OR PRES)  
83001 SPOT?  
198840 SPRAY?  
77876 L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX? OR INJECT  
? OR PRE(W)SPOT? OR SPRAY?)  
L8 1378 L3 AND L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
OR INJECT? OR PRE(W)SPOT? OR SPRAY?)

=> s l8 not l7

L9 1371 L8 NOT L7

=> s l9 and (l1 or wash? or clean?) (2a) (machine or equip? or devic? or dev# or appt# or  
apparat?)

375792 WASH?  
 184651 CLEAN?  
 65222 MACHINE  
 21787 MACHINES  
 81060 MACHINE  
 (MACHINE OR MACHINES)  
 159556 EQUIP?  
 535491 DEVIC?  
 1517 DEV#  
 38 APPT#  
 358310 APPARAT?  
 11956 (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC? OR DEV#  
 OR APPT# OR APPARAT?)  
 L10 98 L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC?  
 OR DEV# OR APPT# OR APPARAT?)

=> s l10 not p/dt

3635793 P/DT  
 L11 12 L10 NOT P/DT

=> d ti 1-12

L11 ANSWER 1 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Effect of various factors on uptake of an acid dye by nylon 66 microfilament yarn  
  
 L11 ANSWER 2 OF 12 HCA COPYRIGHT 2002 ACS  
 TI The dissolving behavior of surfactants in household **washing machines**  
  
 L11 ANSWER 3 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Wash fastness of fluorocarbon finishes on polyester fabrics  
  
 L11 ANSWER 4 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Surfactant challenges for 2000 and beyond  
  
 L11 ANSWER 5 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Comparative study of some selected fat removal boosters  
  
 L11 ANSWER 6 OF 12 HCA COPYRIGHT 2002 ACS  
 TI An intelligent **washing machine** for the evaluation of **laundry detergents**  
  
 L11 ANSWER 7 OF 12 HCA COPYRIGHT 2002 ACS  
 TI The surface tension of polycomponent tenside solutions  
  
 L11 ANSWER 8 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Determination of enzyme action in biologically active detergents  
  
 L11 ANSWER 9 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Semicontinuous hot bleaching of colored cloth in a limited space  
  
 L11 ANSWER 10 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Washing time and temperature effect on cleaning and bleaching action of 3 different washing powders in the home **washing machine**  
  
 L11 ANSWER 11 OF 12 HCA COPYRIGHT 2002 ACS  
 TI Evaluation of soiled test pieces  
  
 L11 ANSWER 12 OF 12 HCA COPYRIGHT 2002 ACS  
 TI A method to improve reproducibility in detergency tests

=> d bib abs 3,11,12

L11 ANSWER 3 OF 12 HCA COPYRIGHT 2002 ACS

AN 129:344420 HCA

TI Wash fastness of fluorocarbon finishes on polyester fabrics

AU Dufour, F.; Jordan, C.; Viallier, P.

CS Laboratoire de Physique et de Mecanique Textiles, ENSITM, Mullhouse, 68093, Fr.

SO Journal of the Society of Dyers and Colourists (1998), 114(9), 258-263  
CODEN: JSDCAA; ISSN: 0037-9859

PB Society of Dyers and Colourists

DT Journal

LA English

AB A fabric's surface tension provides a measure of its ability to repel water and oil, while water penetration can be evaluated from a fabric's hydrostatic pressure, which depends mainly on the pore size and thus on the weave. One way of making a surface hydrophobic is to coat it with fluorinated polymers, which confer a low surface tension, reducing the fabric's wettability while preserving its breathability. Polyester microfiber fabrics (which already have a tight weave and hence high hydrostatic pressure) can be treated with fluorinated finishes to increase water and oil repellency. Observation of a piece of fluorinated polyester microfiber fabric over a no. of washings has shown that a regenerative heat treatment preserved the repellency of the fabric but had little influence on the decrease in hydrostatic pressure that occurs with washing.

L11 ANSWER 11 OF 12 HCA COPYRIGHT 2002 ACS

AN 46:44049 HCA

OREF 46:7347e-g

TI Evaluation of soiled test pieces

AU Mitchell, R. B.

SO Am. Soc. Testing Materials, Papers on Evaluation of Soaps and Detergents, Spec. Tech. Pub. (1951), No. 115, 3-8

DT Journal

LA Unavailable

AB This was a study to det. the possibility of establishing "national standards" for soil removal as judged by soiled test pieces when used in a com. laundry. Three specific soiled test pieces were used; they were evaluated in a normal family whitework classification over a 20-wash test for soil removal. A single, soiled test piece cannot adequately measure detergency as judged by soil removal under all operating conditions. The adoption of "national" performance standards for soiled test pieces apparently is not practical. The control-chart method of interpreting data is of value in detg. control of specific washing formulas as related to individual plants. Soiled test pieces can be used advantageously by com. laundries as long as their results are interpreted on the basis of the individual laundry only. A given soiled test piece cannot adequately measure the efficiency of the various laundry detergents, washing formulas, or equipment as judged by soil-removal results obtained in actual plant use.

L11 ANSWER 12 OF 12 HCA COPYRIGHT 2002 ACS

AN 39:8287 HCA

OREF 39:1306i,1307a-b

TI A method to improve reproducibility in detergency tests

AU Woodhead, J. A.; Vitale, P. T.; Frantz, A. J.

SO Oil and Soap (1944), 21, 333-7

DT Journal

LA Unavailable

AB The most important factor in the method described is the random selection, for each test, of many pieces of soiled fabric each made at different times. The tests were made in an ordinary home-type washing machine, with an unbuilt all-tallow Na soap of 40.degree. titer and a sprayed laundry soap contg. silicate, Na<sub>2</sub>CO<sub>3</sub> and tetrasodium pyrophosphate as builders. In terms of standard

deviation, the reproducibility of a detn. was found to be about  $\pm .7$  when results were expressed as units of black removed under the conditions described. It is possible to det. with reasonable assurance differences between detergents which are greater than 6%. The simplicity of app. required for the test should make it easy to use in labs., and the method might be adapted to measure relative efficiencies of various types of washing machines as well as for evaluating detergents.

=> d his

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L1 15939 S LAUND?  
L2 2117 S (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 S L1 OR L2  
L4 1975302 S DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) () (SOLUT? OR SOL  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 S L5 AND (INJECT? OR PRE()SPOT? OR SPRAY?)  
L7 7 S L6 NOT P/DT  
L8 1378 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L9 1371 S L8 NOT L7  
L10 98 S L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC  
L11 12 S L10 NOT P/DT

=> s l10 not l11

L12 86 L10 NOT L11

=> d ti 1-10

L12 ANSWER 1 OF 86 HCA COPYRIGHT 2002 ACS  
TI Preparation of **laundry** kits in packages to be dispensed by a device comprising a computer and compositions of the **laundry** detergent thereof

L12 ANSWER 2 OF 86 HCA COPYRIGHT 2002 ACS  
TI **Surfactant mixtures** containing ethoxylated unsaturated fatty alcohols as nonionic surfactants

L12 ANSWER 3 OF 86 HCA COPYRIGHT 2002 ACS  
TI Ozone system for purification in **washing machine**

L12 ANSWER 4 OF 86 HCA COPYRIGHT 2002 ACS  
TI Procedure for determining the concentration of a **laundry** detergent, procedure for adding an optimal amount of detergent, and a **washing machine** incorporating these procedures

L12 ANSWER 5 OF 86 HCA COPYRIGHT 2002 ACS  
TI Dishwashing and **laundry** detergent particles and methods for making them

L12 ANSWER 6 OF 86 HCA COPYRIGHT 2002 ACS  
TI Method of **dispensing** a detergent composition

L12 ANSWER 7 OF 86 HCA COPYRIGHT 2002 ACS  
TI Method of **dispensing detergent** composition

L12 ANSWER 8 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent tablets based on two types of granules, their production and their use

L12 ANSWER 9 OF 86 HCA COPYRIGHT 2002 ACS

TI Laundry pretreatment or prespotting compositions for improving aqueous laundry processing

L12 ANSWER 10 OF 86 HCA COPYRIGHT 2002 ACS

TI Garment cleaning compositions comprising salts of phosphoric acid ester anions and organic amine derivative cations and nonionic surfactants with good dirt removal properties and low foaming properties at rapid water flow

=> d ti 11-86;fil stnguide

L12 ANSWER 11 OF 86 HCA COPYRIGHT 2002 ACS

TI Perfume beads in detergent forms, especially tablets for machine laundering

L12 ANSWER 12 OF 86 HCA COPYRIGHT 2002 ACS

TI Reusable high-molecular weight, solid-state active detergent and preparation thereof

L12 ANSWER 13 OF 86 HCA COPYRIGHT 2002 ACS

TI Production of particulate detergent compositions with high bulk density and good flowability

L12 ANSWER 14 OF 86 HCA COPYRIGHT 2002 ACS

TI Granular detergent compositions with long-lasting antifoaming property and excellent rinsability

L12 ANSWER 15 OF 86 HCA COPYRIGHT 2002 ACS

TI Alkaline detergent containing mixed organic and inorganic sequestrants resulting in improved soil removal

L12 ANSWER 16 OF 86 HCA COPYRIGHT 2002 ACS

TI Imparting antibacterial properties to laundered fiber products for hospital bedding

L12 ANSWER 17 OF 86 HCA COPYRIGHT 2002 ACS

TI Agglomeration of detergent powders using an alkyl polyglycoside binder

L12 ANSWER 18 OF 86 HCA COPYRIGHT 2002 ACS

TI Stain removal in pre-spotting method with bleach composition and spot cleaning device

L12 ANSWER 19 OF 86 HCA COPYRIGHT 2002 ACS

TI Dispensable compositions for cleaning soiled fabrics, dispensing devices, and cleaning therewith

L12 ANSWER 20 OF 86 HCA COPYRIGHT 2002 ACS

TI Detergent compositions and manufacture thereof and home machine laundering and dishwashing using the same

L12 ANSWER 21 OF 86 HCA COPYRIGHT 2002 ACS

TI Hand wash laundry detergent compositions containing a combination of surfactants

L12 ANSWER 22 OF 86 HCA COPYRIGHT 2002 ACS

TI Washing solution having a polyelectrolyte-containing detergent mixed directly with ozone gas for laundering cotton and polyester clothes and textiles

L12 ANSWER 23 OF 86 HCA COPYRIGHT 2002 ACS

TI Method and apparatus for measurement of surface tension of liquids, especially dishwashing and laundering detergents

L12 ANSWER 24 OF 86 HCA COPYRIGHT 2002 ACS  
TI Laundry washing method

L12 ANSWER 25 OF 86 HCA COPYRIGHT 2002 ACS  
TI Spray-dried detergent or component treated with nonionic surfactant

L12 ANSWER 26 OF 86 HCA COPYRIGHT 2002 ACS  
TI Aminoalkyl-modified silicone oil-containing laundry rinsing aids and detergent compositions

L12 ANSWER 27 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergents containing water-soluble granular amorphous silicate builders for washing fabrics with reduced ash content

L12 ANSWER 28 OF 86 HCA COPYRIGHT 2002 ACS  
TI A dispensing device for detergent tablets

L12 ANSWER 29 OF 86 HCA COPYRIGHT 2002 ACS  
TI Laundering dry-cleanable garments without shrinkage

L12 ANSWER 30 OF 86 HCA COPYRIGHT 2002 ACS  
TI Aqueous detergent compositions for cleaning automatic washing machine

L12 ANSWER 31 OF 86 HCA COPYRIGHT 2002 ACS  
TI Granular laundry detergents

L12 ANSWER 32 OF 86 HCA COPYRIGHT 2002 ACS  
TI Powdered detergents with fluidity for automatic feeding system and their manufacture

L12 ANSWER 33 OF 86 HCA COPYRIGHT 2002 ACS  
TI Granular laundering detergent compositions showing good cold water solubility

L12 ANSWER 34 OF 86 HCA COPYRIGHT 2002 ACS  
TI Fabric softeners for laundering garments in automatic washing machines

L12 ANSWER 35 OF 86 HCA COPYRIGHT 2002 ACS  
TI Particulate laundry detergent compositions containing nonionic surfactants

L12 ANSWER 36 OF 86 HCA COPYRIGHT 2002 ACS  
TI Granular laundry detergent compositions containing poly(vinylpyrrolidone) as dye transfer inhibitor

L12 ANSWER 37 OF 86 HCA COPYRIGHT 2002 ACS  
TI Process of dispensing a high-bulk-density percarbonate-containing laundry detergent

L12 ANSWER 38 OF 86 HCA COPYRIGHT 2002 ACS  
TI Effervescent detergent powders containing little or no phosphate builder

L12 ANSWER 39 OF 86 HCA COPYRIGHT 2002 ACS  
TI A laundry detergent composition containing nonphosphate builders

L12 ANSWER 40 OF 86 HCA COPYRIGHT 2002 ACS  
TI Sodium tripolyphosphate for detergents showing caking resistance when added to water

L12 ANSWER 41 OF 86 HCA COPYRIGHT 2002 ACS  
TI Use of non-aqueous detergent compositions for laundering

L12 ANSWER 42 OF 86 HCA COPYRIGHT 2002 ACS



TI Detergent powders containing a dispensing aid and process for preparing them

L12 ANSWER 43 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Low-foaming detergents for machine laundering

L12 ANSWER 44 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Low-foaming nonionic surfactant mixture containing a glycoside

L12 ANSWER 45 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Cool-water-soluble soft capsules for encapsulation of detergents and pharmaceuticals

L12 ANSWER 46 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Treatment of silicate-containing detergent powder with acidic gas for improved dispensability

L12 ANSWER 47 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Solid detergent compositions for laundry machines

L12 ANSWER 48 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Solid detergent block for uniform dispensing in mechanical warewashing or fabric washing

L12 ANSWER 49 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Granular detergent compositions containing crutched and admixed phosphate builder system for rapid dissolution

L12 ANSWER 50 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Liquid detergent containing soap and silicone for foam control in laundering

L12 ANSWER 51 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Process for preparing laundry detergent powders having improved dispensing properties

L12 ANSWER 52 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Antifoam ingredient comprising silicone oil on porous carrier for addition to laundry detergent

L12 ANSWER 53 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Liquid cleaning products containing sodium tripolyphosphate and having good dispensing properties

L12 ANSWER 54 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Process for increasing the bulk density of spray-dried detergents with a reduced phosphate content

L12 ANSWER 55 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Detergent powders containing hydrophobic additive for improved dispensing in automatic washers

L12 ANSWER 56 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Washing and bleaching agents for textiles

L12 ANSWER 57 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Product for rapid and delayed dispensing of treatment agents into wash liquor in a (dish)washing machine

L12 ANSWER 58 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Detergent paste containing dispersed solids and its addition to a laundering apparatus by a dispenser

L12 ANSWER 59 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Synergistic compositions containing an anionic surfactant and a zwitterionic silicone surfactant

L12 ANSWER 60 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent composition, especially for dishwashing

L12 ANSWER 61 OF 86 HCA COPYRIGHT 2002 ACS  
TI Laundry detergent composition containing carbonate builder

L12 ANSWER 62 OF 86 HCA COPYRIGHT 2002 ACS  
TI Dispensable fabric softeners containing detergents

L12 ANSWER 63 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent compositions

L12 ANSWER 64 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent composition and process for its production

L12 ANSWER 65 OF 86 HCA COPYRIGHT 2002 ACS  
TI Spray-dried detergent powder

L12 ANSWER 66 OF 86 HCA COPYRIGHT 2002 ACS  
TI Cleaning liquid

L12 ANSWER 67 OF 86 HCA COPYRIGHT 2002 ACS  
TI Fabric softener agglomerates

L12 ANSWER 68 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent with suds control

L12 ANSWER 69 OF 86 HCA COPYRIGHT 2002 ACS  
TI Liquid heavy duty detergent

L12 ANSWER 70 OF 86 HCA COPYRIGHT 2002 ACS  
TI Low-sudsing liquid detergent compositions

L12 ANSWER 71 OF 86 HCA COPYRIGHT 2002 ACS  
TI Molecular sieve zeolite-built detergent paste

L12 ANSWER 72 OF 86 HCA COPYRIGHT 2002 ACS  
TI Softener-containing granular detergent for textiles

L12 ANSWER 73 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent compositions

L12 ANSWER 74 OF 86 HCA COPYRIGHT 2002 ACS  
TI Powdered or flaked washing compositions adapted to automatic laundry machines

L12 ANSWER 75 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent with an amount of polydimethylsiloxane showing antifoaming activity

L12 ANSWER 76 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent compositions

L12 ANSWER 77 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent compositions containing particulate suds regulating agent

L12 ANSWER 78 OF 86 HCA COPYRIGHT 2002 ACS  
TI Detergent containing a silicone and having improved solution properties

L12 ANSWER 79 OF 86 HCA COPYRIGHT 2002 ACS  
TI Washing powder mixture based on soap for use in washing machines

L12 ANSWER 80 OF 86 HCA COPYRIGHT 2002 ACS  
TI Impregnating fiber goods with oil

L12 ANSWER 81 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Detergent compositions

L12 ANSWER 82 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Detergent compositions having softening properties

L12 ANSWER 83 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Dry **mixed** built **detergent** compositions

L12 ANSWER 84 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Water-soluble packages for **laundry** detergents

L12 ANSWER 85 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Detergent briquets

L12 ANSWER 86 OF 86 HCA COPYRIGHT 2002 ACS  
 TI Detergent composition

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FILE CONTAINS CURRENT INFORMATION.  
 LAST RELOADED: Feb 15, 2002 (20020215/UP).

=> d bib abs 4,6,7,9,16,19,22,32,35,48,50,57,58,84,85

YOU HAVE REQUESTED DATA FROM FILE 'HCA' - CONTINUE? (Y)/N:y

L12 ANSWER 4 OF 86 HCA COPYRIGHT 2002 ACS  
 AN 134:73301 HCA  
 TI Procedure for determining the concentration of a **laundry**  
 detergent, procedure for adding an optimal amount of detergent, and a  
**washing machine** incorporating these procedures

IN Dietz, Walter; Herden, Rudolf  
 PA Miele und Cie G.m.b.H. und Co., Germany  
 SO Ger. Offen., 6 pp.  
 CODEN: GWXXBX

DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10029505	A1	20001228	DE 2000-10029505	20000621
	EP 1063340	A1	20001227	EP 2000-112988	20000621
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	DE 1999-19928388	A1	19990622		
	DE 1999-19928390	A1	19990622		
AB	A surface tension method based on the frequency of bubble formation and bubble pressure is described for detg. the concn. of a <b>laundry</b> detergent (contg. surfactant) in an aq. washing liq. and optimizing the amt. of detergent used in a <b>washing machine</b> with respect to ecolog. and economic interests. A <b>wash</b> <b>machine</b> incorporating a procedure for adding the predetd. optimal amt. of detergent is also claimed.				

L12 ANSWER 6 OF 86 HCA COPYRIGHT 2002 ACS  
 AN 133:336901 HCA  
 TI Method of **dispensing** a **detergent** composition

IN Vega, Jose Luis; Tcheou, Eric; Busch, Alfred; Baeck, Andre Cesar  
 PA Procter & Gamble Co., USA  
 SO Eur. Pat. Appl., 22 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1048715	A1	20001102	EP 1999-870084	19990430
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	EP 1048712	A1	20001102	EP 2000-870024	20000217
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000066687	A1	20001109	WO 2000-US10064	20000413
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	WO 2000066689	A1	20001109	WO 2000-US10273	20000413
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1175478	A1	20020130	EP 2000-923423	20000413
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	EP 1999-870080	A	19990430		
	EP 1999-870083	A	19990430		
	EP 1999-870084	A	19990430		
	EP 1999-870085	A	19990430		
	EP 1999-870086	A	19990430		
	EP 1999-870089	A	19990430		
	EP 1999-870090	A	19990430		
	EP 2000-870024	A	20000217		
	WO 2000-US10273	W	20000413		

AB A softening laundry detergent comprising clay and laundry surfactant is dispensed as a tablet through a dispensing device in a washing machine.

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 86 HCA COPYRIGHT 2002 ACS  
 AN 133:336900 HCA  
 TI Method of dispensing detergent composition  
 IN Vega, Jose Luis; Tcheou, Eric; Busch, Alfred; Baeck, Andre Cesar  
 PA Procter & Gamble Co., USA  
 SO Eur. Pat. Appl., 22 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1048714	A1	20001102	EP 1999-870083	19990430

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO  
EP 1048712 A1 20001102 EP 2000-870024 20000217  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO  
WO 2000066691 A1 20001109 WO 2000-US9889 20000413  
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,  
CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,  
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,  
US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
WO 2000066687 A1 20001109 WO 2000-US10064 20000413  
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,  
CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,  
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,  
US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
EP 1175475 A1 20020130 EP 2000-922140 20000413  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO  
PRAI EP 1999-870080 A 19990430  
EP 1999-870083 A 19990430  
EP 1999-870084 A 19990430  
EP 1999-870085 A 19990430  
EP 1999-870086 A 19990430  
EP 1999-870089 A 19990430  
EP 1999-870090 A 19990430  
EP 2000-870024 A 20000217  
WO 2000-US9889 W 20000413  
AB A softening laundry detergent comprising clay and  
laundry surfactant is dispensed as a tablet  
through the drawer of a washing machine.  
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 86 HCA COPYRIGHT 2002 ACS

AN 132:280921 HCA

TI Laundry pretreatment or prespotting compositions for improving  
aqueous laundry processing

IN Smith, Kim R.; Armstrong, Carrie L.; Mattia, Paul J.; Levitt, Mark; Hei,  
Robert D. P.; Wiseth, Wendy M.

PA Ecolab Inc., USA

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020542	A2	20000413	WO 1999-US22353	19990928
WO 2000020542	A3	20000803		
W: AU, BR, CA, CN, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6204233	B1	20010320	US 1998-167601	19981007
EP 1123371	A2	20010816	EP 1999-949909	19990928
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI US 1998-167601	A	19981007		

WO 1999-US22353 W 19990928

OS MARPAT 132:280921

AB The ability of aq. laundry compns. to remove org. hydrophobic soils, e.g., motor oil and particulate carbon, from a laundry item, e.g., polyester and/cotton fabric, is substantially improved by prespotting or pretreating such a soiled item with a compn. having a hydrophilic ethoxylate surfactant  $R(OC_2H_4)mOH$  ( $R = C_6-27$  alkyl;  $m < 2$ ) or a blend of .gtoreq.2 surfactant compns. with a blended HLB value of 7-12. The blend of surfactants with this HLB value penetrates soils and renders the soil more easily removed from the item using aq. laundry detergent. The treatment compn. can be used in a liq. or solid form and can be applied to individual laundry items in the form of a solid stick or liq. spray prior to introduction to the laundry machine. Laundry items can also be contacted in the laundry machine with the treatment compn. in the form of an aq. presoak, preflush, prewash, or other step prior to the cleaning step. A preferred laundry machine comprises an institutional tunnel washer.

L12 ANSWER 16 OF 86 HCA COPYRIGHT 2002 ACS

AN 129:110083 HCA

TI Imparting antibacterial properties to laundered fiber products for hospital bedding

IN Matsumoto, Kiyoshi; Banba, Akio

PA Kao Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10168757	A2	19980623	JP 1996-322805	19961203

AB Antibacterial fiber products are prepd. by treating laundered fiber products with solns. contg. 0.005-0.5% (on fiber) cationic surfactant bactericides and chelating agents after the final rinsing step of the washing cycle. Hospital pillow cases were laundered in a washing machine, rinsed, treated with an aq. soln. contg. 10.0% benzalkonium chloride and 11.66% trisodium ethylenediaminetetraacetate (Chelest C) for 10 min at room temp., and dried to give pillow cases exhibiting no. of bacteria growth 2/cm<sup>2</sup> on contacting the pillow cases with MRSA-infected patients for 3 wk by a specified test.

L12 ANSWER 19 OF 86 HCA COPYRIGHT 2002 ACS

AN 128:155863 HCA

TI Dispensable compositions for cleaning soiled fabrics, dispensing devices, and cleaning therewith

IN Ochomogo, Maria

PA Clorox Company, USA

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9804666	A1	19980205	WO 1997-US10335	19970618
	W: AU, BR, CA, JP, KP, MX				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2260921	AA	19980205	CA 1997-2260921	19970618
	AU 9733937	A1	19980220	AU 1997-33937	19970618
	BR 9900542	A	20000822	BR 1999-542	19990204
PRAI	US 1996-690430	A	19960729		
	WO 1997-US10335	W	19970618		

AB The title compns. contain (a) about 0.1-6% foaming surfactants; (b) about

0.5-5% non-volatile, hydrophobic org. solvents of water soly. <about 18% at 25.degree.; (c) an effective amt. of an emulsifier; (d) an effective amt. of a propellant; and (e) the balance as water; wherein the surfactant and solvent mix and interact with the propellant so as to form an initial foam upon dispensing to collapse without abrasion into a fabric surface and the emulsifier emulsifies the solvent after the collapse. The compn. can also include magnesium lauryl sulfate which facilitates the removal of greasy dirt, corrosion inhibitor, fragrance, and/or an oxidizing agent. Use of a hydrophobic solvent/surfactant blend in the compn. produces a foam that readily penetrates into the fibers of the carpet and emulsify and dislodge the greasy soil particles. A compn. comprised Na lauryl sulfate 2.5, Na lauryl sarcosinate 3.5, dipropylene glycol Pr ether 3, polyethylene glycol monooleate 0.3, 85:15 isobutane-propane propellant 5, volatile amine/sodium benzoate corrosion inhibitor 0.35, fragrance 0.5, Borox 0.75, styrene-maleic anhydride copolymer 3, and water to 100%.

L12 ANSWER 22 OF 86 HCA COPYRIGHT 2002 ACS

AN 128:23954 HCA

TI Washing solution having a polyelectrolyte-containing detergent mixed directly with ozone gas for laundering cotton and polyester clothes and textiles

IN Nishioka, Yukiko; Shinjo, Ryoichi; Ishii, Yoshihiro; Yamanaka, Tadao

PA Ebara Corp., Japan

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5688289	A	19971118	US 1996-637342	19960425
PRAI	JP 1995-129614		19950428		

AB The title method of laundering comprises providing a washing machine having ~~a tub with a fixed outer shell and an inner cylinder that is rotatably supported on a horizontal rotating shaft and that has many orifices in the outer peripheral wall through which a washing soln. can pass; putting the clothes and textiles into the inner cylinder; charging the outer shell with a washing soln. having a polyelectrolyte-contg. detergent; and laundering the clothes and textiles with ozone gas from an ozonizer, introduced from an ozone gas supply port directly into the washing soln. at .apprx.40-50.degree.. Severe protein soiling of the collar of shirts and yellowing can be removed in a regular washing cycle without employing any preliminary or post-treatments~~ and can be adapted to existing com. washing machines.

L12 ANSWER 32 OF 86 HCA COPYRIGHT 2002 ACS

AN 124:59977 HCA

TI Powdered detergents with fluidity for automatic feeding system and their manufacture

IN Kawabata, Osamu

PA Shibuya Yushi Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07242899	A2	19950919	JP 1994-36868	19940308
	JP 2865548	B2	19990308		

AB Title particles, showing inherent coagulation property in contacting with water, are coated by solid water-sol. polymers. The particles are prepd. by mixing the solid powd. detergents and water-sol. polymers having m.p. .gtoreq.50.degree., which are melted at temp. lower than m.p. of the detergents, heating at a temp. for melting only the

polymers, coating the polymers on the particles in stirring, and cooling. Thus, 8 kg **spray-dried powd. soap** was **mixed** with 450 g PEG 2000 at 80.degree. and cooled to give title particle, which was used in automatic **wash machine** having automatic powder-feeding system to show prevention of coagulation in the feeder and complete dissoln. in water.

L12 ANSWER 35 OF 86 HCA COPYRIGHT 2002 ACS

AN 122:84310 HCA

TI Particulate laundry detergent compositions containing nonionic surfactants

IN Carter, Malcolm Nigel Alan; Houghton, Mark Philip; Hull, Michael

PA ~~Unilever~~ PLC, UK; Unilever N. V.

SO PCT Int. Appl., 37 pp.

CODEN: P1XXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9411488	A1	19940526	WO 1993-GB2346	19931115
	W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9454313	A1	19940608	AU 1994-54313	19931115
	EP 670888	A1	19950913	EP 1993-924769	19931115
	EP 670888	B1	19980204		
	R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
	JP 08503241	T2	19960409	JP 1993-511872	19931115
	ES 2111778	T3	19980316	ES 1993-924769	19931115
PRAI	GB 1992-24014	A	19921116		
	GB 1992-26246	A	19921216		
	WO 1993-GB2346	W	19931115		

AB The title compns. have bulk d. .gtoreq.600 g/L, contain a nonionic surfactant comprising an ethoxylated C8-C15 aliph. alc. which has degree of ethoxylation 2-6 and is prepd. from alcs. contg. .gtoreq.40% branched alcs., and are substantially free of low-ethoxylated nonionic surfactant prepd. from alcs. contg. <40% branched alcs. The nonionic **surfactant** improves the **dispensability** and the soly. and/or rate of dissoln. of the compn. in an automatic **washing machine** and also improves the detergency.

L12 ANSWER 48 OF 86 HCA COPYRIGHT 2002 ACS

AN 113:154632 HCA

TI Solid **detergent** block for uniform **dispensing** in mechanical warewashing or fabric washing

IN Van den Brom, Guido Clemens; Pritchard, Norman Jason

PA ~~Unilever~~ N. V., Neth.; Unilever PLC

SO Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 375022	A2	19900627	EP 1989-203144	19891211
	EP 375022	A3	19910814		
	EP 375022	B1	19950315		
	R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
	ES 2069576	T3	19950516	ES 1989-203144	19891211
	AU 8946962	A1	19900628	AU 1989-46962	19891219
	AU 624204	B2	19920604		
	FI 95927	B	19951229	FI 1989-6073	19891219
	FI 95927	C	19960410		
	ZA 8909844	A	19910828	ZA 1989-9844	19891221



PRAI GB 1988-30010 19881222

AB A granular compn. contg. an alk. agent 5-80, a builder 5-70, and a Cl bleach 0-15% is compressed at 3-30 kN/cm<sup>2</sup> in a mold to form a block weighing 0.2-10 kg. The components of the block are stable during storage and are uniformly dispensed into a mech. washer when the block is sprayed with water. A mixt. of Na<sub>5</sub>P<sub>3</sub>O<sub>10</sub>.6H<sub>2</sub>O 30.5, NaOH 59.0, polyacrylate 5.0, Na dichloroisocyanurate 3.5, and Triton DF 12 2.0% was compressed at 5.3-6.4 kN/cm<sup>2</sup> in a mold to prep. a block weighing 4.3 kg.

L12 ANSWER 50 OF 86 HCA COPYRIGHT 2002 ACS

AN 113:99901 HCA

TI Liquid detergent containing soap and silicone for foam control in laundering

IN Wilsberg, Heinz Manfred

PA ~~Henkel~~ K.-G.a.A., Fed. Rep. Ger.

SO Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 363763	A1	19900418	EP 1989-118133	19890929

R: ES, GR

PRAI DE 1988-3814181 19881007

AB Liq. detergent compns. based on anionic and nonionic surfactants contain soap and a siloxane to control foaming during machine and hand laundering and rinsing of textiles. The soap and siloxane do not cause unsatisfactory increases in viscosity. A compn. contained water, 12% Na alkylbenzenesulfonate, 2% Na C12-14-alkyl ether sulfate, 5% ethoxylated C13-15 oxoalcs., 2% C12-18 fatty acids, 0.6% NaOH, 1.5% siloxane defoamer, and 0.3% ethylene glycol stearate.

L12 ANSWER 57 OF 86 HCA COPYRIGHT 2002 ACS

AN 111:80382 HCA

TI Product for rapid and delayed dispensing of treatment agents into wash liquor in a (dish)washing machine

IN Anderson, Stephen; Lloyd, John; Nehru, Sunil Kumar; Newbold, Geoffrey; Wraige, Douglas

PA ~~Unilever~~ PLC, UK

SO S. African, 25 pp.

CODEN: SFXAB

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	ZA 8701643	A	19881130	ZA 1987-1643	19870306

PRAI GB 1986-5734 19860307

AB The title product comprises a sachet having .gtoreq.2 compartments including a first compartment which has an opening seal and/or walls of water-permeable material and releases a treatment agent (e.g., laundry detergent) into wash liquor during <3 min and a second compartment which is formed of water-permeable material and is coated or enclosed to delay the release of a treatment agent (e.g., bleaching agent) for .gtoreq.5 min.

L12 ANSWER 58 OF 86 HCA COPYRIGHT 2002 ACS

AN 110:215249 HCA

TI Detergent paste containing dispersed solids and its addition to a laundering apparatus by a dispenser

IN Amberg, Guenther; Bechstedt, Wolfgang; Schulz, Paul; Trabitzsch, Uwe

PA ~~Henkel~~ K.-G.a.A., Fed. Rep. Ger.

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 295525	A2	19881221	EP 1988-109014	19880606
	EP 295525	A3	19900328		
	EP 295525	B1	19930203		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	DE 3719906	A1	19881229	DE 1987-3719906	19870615
	AT 85372	E	19930215	AT 1988-109014	19880606
	ES 2040780	T3	19931101	ES 1988-109014	19880606
	DK 8803245	A	19881216	DK 1988-3245	19880614
	DK 167624	B1	19931129		
	FI 86084	B	19920331	FI 1988-2833	19880614
	FI 86084	C	19920710		
	JP 01026778	A2	19890130	JP 1988-147894	19880615
	US 4889644	A	19891226	US 1988-207610	19880615
	KR 9703076	B1	19970314	KR 1988-7196	19880615
PRAI	DE 1987-3719906	A	19870615		
	EP 1988-109014	A	19880606		

AB A paste comprises a liq. phase which is based on a nonionic surfactant and is free of water, org. solvents, and hydrotropes and a dispersed solid phase which contains alk. compds., sequestering agents, additives, and, optionally, anionic surfactants and has av. particle size 5-40 .mu.m. The paste is dild. with water to the gel stage or beyond before addn. to an app. which dispenses the dild. compn. into water in a laundering app. The use of the paste avoids problems assocd. with liq. or powd. detergent compns., e.g., the handling and storage of large vols. of inert liq., slow dissoln. of powders, and difficulties in dispensing. A stable, pumpable paste was prepd. by milling a 1:1 ethoxylated (3 mol) C12-14 fatty alc.-ethoxylated (5 mol) C12-14 fatty alc. mixt. (m. 5.degree.) 24.0, Na dodecylbenzenesulfonate 2.0, N(CH<sub>2</sub>CO<sub>2</sub>Na)<sub>3</sub> 8.5, Na<sub>2</sub>SiO<sub>3</sub> 55.0, Na<sub>5</sub>P<sub>3</sub>O<sub>10</sub> 8.5, cellulose ether 1.5, and optical brightener 0.5% to give av. particle size 18.6 .mu.m and adding 0.1% dye. Dilg. 1 part paste with 1 part water gave a conc. suitable for dispensing.

L12 ANSWER 84 OF 86 HCA COPYRIGHT 2002 ACS  
 AN 67:65185 HCA  
 TI Water-soluble packages for laundry detergents  
 IN Friedman, Jack  
 SO U.S., 5 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3322674		19670530	US	19640626
AB	Continuation-in-part of U.S. 3,186,869 (CA 63: 5866h). A detergent mixt. contg. a bleaching agent is enclosed in a container relatively inert to the contents but readily sol. in hot H <sub>2</sub> O. The container is of a polymeric film-forming material, e.g. poly(vinyl alc.) (I) or Me cellulose, its inner surface being coated with a thin H <sub>2</sub> O-dispersible barrier. The latter may be a wax of high m.p., a saponif. fatty acid, or various mixt. of such materials, and is nonreactive to the bleaching agent. Thus, a container was formed of I of thickness 2 mils. The coating was a mixt. of glycerol monostearate (II) 85, oleic acid 5, and triethanolamine 10 wt. %, II presumably functioning as the filming material and the other 2 components in combination as an emulsifier. The coating mixt., preferably mixed at 130.degree.F., was applied to the container film by passing the latter over rollers running in a bath of the melted mixt. at 150-180.degree.F. The coating, which solidified almost immediately upon application, was .apprx.0.002 in. thick. The coated film may be fed to a continuous package-forming and filling operation to produce packages of dimensions 2.25 .times. 4.5 in. with a heat-sealed margin of .apprx.0.375 in. The mixt. that fills the bags may include a soap or nonoxidizable syndet mixed with the bleach (10-35 wt. %), an alk. material (25-35%), a bleaching agent (:gtoreq.5%),				

a washing aid (25-35%), and a water softener-sequestering agent (0.1-0.25%). The bleaching agent is preferably a Cl-contg. solid that releases its Cl in aq. soln. Suitable bleaching compds. include dichloroisocyanuric acid and its salts, LiClO, and KClO. The package, which is storage stable, releases its contents quickly in a washing machine contg. water at 130.degree..

L12 ANSWER 85 OF 86 HCA COPYRIGHT 2002 ACS

AN 64:105823 HCA

OREF 64:20005a-d

TI Detergent briquets

IN Schulerud, Albert L.; Austin, Amory E. Jr.; Speckhals, Kenneth H.

PA Colgate-Palmolive Co.

SO 7 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3240712		19660315	US	19601107
	DE 1213079			DE	

AB A normally solid, H2O-sol. anionic org. detergent (I) is mixed with a normally solid H2O-sol. inorg. salt (II) to produce a detergent contg. .ltoreq.21% moisture, 4-12% H2O is added to give 4-25% total moisture, the particles are pressed to a lightly-compacted, readily disintegrable solid briquet at 3-100 lb./in.2, and 1-5% of a H2O-sol. poly(vinyl alc.) (III) is applied to the briquet. Preferably, 25-35% I, e.g., Na alkylbenzenesulfonate (IV), 30-55% II, e.g., Na tripolyphosphate, and 13-19% H2O are used. In an example, a crutcher mix contg. Na tridecylbenzenesulfonate 19, IV 27.1, Na silicate (Na2O/SiO2 4.3) 4.9, Na2SO4 12.2, other adjuvants 1.1, and H2O 35.7% was mixed at 165.degree. for 0.5 hr. and sprayed into heated drying gas at 500.degree.F. The spray-dried particles, screened through an 8-mesh screen bulk d. .apprx.0.4 g./cc., 8.5% H2O, and pH 10 (1% soln. in H2O), were cooled, sprayed with H2O while tumbling for 5 min., and tumbled for 10-15 min. more without breaking the particles (8-100 mesh). About 5 min. later, the detergent (with agglomerates >10 mesh screened out), 14% H2O, was compacted at 18 lb./in.2 to cylindrical briquets, d. 0.53 g./cc., av. wt. 53.9 g. Within 1 hr. after briquetting, the tablets were sprayed with a soln. heated to 150.degree.F. and contg. 17% III [(100% polymerized, 20% poly(vinyl acetate)) 1% NaHCO3, 25% glycerol, 1.4% alkylarylsulfonate, and the balance H2O to give 1.9% III and an av. film thickness of 0.4 mm. The aq. solvent in the coating soln. was evapd. by ir heating to give briquets with 14% moisture. They passed the test for resistance to breaking and abrasion by being dropped 1 ft. onto a hard surface without damage, and disintegrated in 20-30 sec. in a washing machine. Wash tests showed that the briquets washed clothes whiter than the detergent from which the briquets were made.

=> d his

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FILE 'HCA' ENTERED AT 16:46:44 ON 20 FEB 2002

CHARGED TO COST=0592087

L1 15939 S LAUND?  
L2 2117 S (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 S L1 OR L2  
L4 1975302 S DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) () (SOLUT? OR SOL  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 S L5 AND (INJECT? OR PRE()SPOT? OR SPRAY?)  
L7 7 S L6 NOT P/DT  
L8 1378 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L9 1371 S L8 NOT L7

L10 98 S L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC  
L11 12 S L10 NOT P/DT  
L12 86 S L10 NOT L11

FILE 'STNGUIDE' ENTERED AT 17:04:04 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'HCA' ENTERED AT 17:11:59 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'STNGUIDE' ENTERED AT 17:12:01 ON 20 FEB 2002  
CHARGED TO COST=0592087

=> s 19 not 110

'DT' IS NOT A VALID FIELD CODE

1 LAUND?  
0 GARMENT?  
0 CLOTH?  
1 WASH?  
3 CLEAN?  
0 (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
0 DETERG?  
0 SOAP?  
14 SURFAC?  
78 USE  
8 USES  
84 USE  
    (USE OR USES)  
2 STOCK  
2 SOLUT?  
0 SOLN#  
7 LIQ?  
1 METER?  
12 MEASUR?  
0 DISPENS?  
0 BLEND?  
9 MIX?  
0 INJECT?  
12 PRE  
4 PRES  
16 PRE  
    (PRE OR PRES)  
0 SPOT?  
1 SPRAY?  
0 L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX? OR INJECT  
    ? OR PRE(W)SPOT? OR SPRAY?)  
1 LAUND?  
0 GARMENT?  
0 CLOTH?  
1 WASH?  
3 CLEAN?  
0 (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
0 DETERG?  
0 SOAP?  
14 SURFAC?  
78 USE  
8 USES  
84 USE  
    (USE OR USES)  
2 STOCK  
2 SOLUT?  
0 SOLN#  
7 LIQ?  
1 METER?  
12 MEASUR?  
0 DISPENS?

0 BLEND?  
 9 MIX?  
 0 L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?)  
 0 INJECT?  
 12 PRE  
 4 PRES  
 16 PRE  
     (PRE OR PRES)  
 0 SPOT?  
 0 PRE(W) SPOT?  
 1 SPRAY?  
 0 P/DT  
 1 LAUND?  
 0 GARMENT?  
 0 CLOTH?  
 1 WASH?  
 3 CLEAN?  
 0 (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
 0 DETERG?  
 0 SOAP?  
 14 SURFAC?  
 78 USE  
 8 USES  
 84 USE  
     (USE OR USES)  
 2 STOCK  
 2 SOLUT?  
 0 SOLN#  
 7 LIQ?  
 1 METER?  
 12 MEASUR?  
 0 DISPENS?  
 0 BLEND?  
 9 MIX?  
 0 INJECT?  
 12 PRE  
 4 PRES  
 16 PRE  
     (PRE OR PRES)  
 0 SPOT?  
 1 SPRAY?  
 0 L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX? OR INJECT  
     ? OR PRE(W) SPOT? OR SPRAY?)  
 1 LAUND?  
 0 GARMENT?  
 0 CLOTH?  
 1 WASH?  
 3 CLEAN?  
 0 (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
 0 DETERG?  
 0 SOAP?  
 14 SURFAC?  
 78 USE  
 8 USES  
 84 USE  
     (USE OR USES)  
 2 STOCK  
 2 SOLUT?  
 0 SOLN#  
 7 LIQ?  
 1 METER?  
 12 MEASUR?  
 0 DISPENS?  
 0 BLEND?  
 9 MIX?  
 0 L4(3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?)  
 0 INJECT?

```

12 PRE
 4 PRES
16 PRE
    (PRE OR PRES)
 0 SPOT?
 0 PRE(W) SPOT?
 1 SPRAY?
 0 P/DT
 1 LAUND?
 1 WASH?
 3 CLEAN?
 4 MACHINE
 1 MACHINES
 4 MACHINE
    (MACHINE OR MACHINES)
17 EQUIP?
13 DEVIC?
 0 DEV#
 0 APPT#
 1 APPARAT?
 0 (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC? OR DEV#
    OR APPT# OR APPARAT?)
L13 0 L9 NOT L10

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=> del 113 y

=> fil hca

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FILE COVERS 1907 - 14 Feb 2002 VOL 136 ISS 8  
 FILE LAST UPDATED: 14 Feb 2002 (20020214/ED)

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=> s 19 not 110

L13 1273 L9 NOT L10

=> s 113 and (automatic? or door) (2w) (dispens? or inject? or meter? or pump? or supply? or add? or spray? or dispers? or distrib? or portion? or discharg?)

82076 AUTOMATIC?

3839 DOOR

2619 DOORS

5450 DOOR

(DOOR OR DOORS)

11489 DISPENS?

578620 INJECT?

31059 METER?

158558 PUMP?

133027 SUPPLY?

2738823 ADD?

198840 SPRAY?

491586 DISPERS?

969545 DISTRIB?

253922 PORTION?

238998 DISCHARG?

2460 (AUTOMATIC? OR DOOR) (2W) (DISPENS? OR INJECT? OR METER? OR PUMP?  
OR SUPPLY? OR ADD? OR SPRAY? OR DISPERS? OR DISTRIB? OR PORTION?  
OR DISCHARG?)

L14 3 L13 AND (AUTOMATIC? OR DOOR) (2W) (DISPENS? OR INJECT? OR METER?  
OR PUMP? OR SUPPLY? OR ADD? OR SPRAY? OR DISPERS? OR DISTRIB?  
OR PORTION? OR DISCHARG?)

=> d ti 1-3

L14 ANSWER 1 OF 3 HCA COPYRIGHT 2002 ACS  
TI Washing and cleaning composition

L14 ANSWER 2 OF 3 HCA COPYRIGHT 2002 ACS  
TI Washing with liquid detergent components

L14 ANSWER 3 OF 3 HCA COPYRIGHT 2002 ACS  
TI Liquid detergent preparation

=> d bib abs 1-3

L14 ANSWER 1 OF 3 HCA COPYRIGHT 2002 ACS

AN 101:173483 HCA

TI Washing and cleaning composition

IN Trabitzsch, Uwe; Grund, Helmut

PA Henkel K.-G.a.A., Fed. Rep. Ger.

SO Ger. Offen., 21 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3301577	A1	19840719	DE 1983-3301577	19830119
	DK 8305978	A	19840720	DK 1983-5978	19831223
	EP 118663	A1	19840919	EP 1984-100219	19840111
	EP 118663	B1	19861126		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 23876	E	19861215	AT 1984-100219	19840111
	US 4581153	A	19860408	US 1984-571026	19840116
	JP 59138300	A2	19840808	JP 1984-4948	19840117
	BR 8400196	A	19840821	BR 1984-196	19840118
	ZA 8400386	A	19840829	ZA 1984-386	19840118
PRAI	DE 1983-3301577		19830119		
	EP 1984-100219		19840111		

AB Powd. detergents are prepd. which contain zeolite NaA or NaX as well as xanthan gum [11138-66-2] which is a dispersant for the zeolite and permits the prepn. of stable stock solns. suitable for automatic metering into washing app. Thus, a powd. detergent comprising Sasil 25.0, Kelzan 1.0, alkylbenzenesulfonate 1.0, nonionic surfactants 10, Na2CO3 20, Na2SiO3 28.0, and Na2SO4-water-additives 15% was used to prep. a stock soln. contg. 10% detergent. The soln. was stable for >24 h.

L14 ANSWER 2 OF 3 HCA COPYRIGHT 2002 ACS

AN 87:119655 HCA

TI Washing with liquid detergent components

AU Maahs, G.; Pohl, H.; Rombusch, K.; Scholz-Weigl, Sigrid; Stache, H.

CS Chem. Werke, Huels A.-G., Marl, Ger.

SO Tenside Deterg. (1977), 14(4), 211-14

CODEN: TSDTAZ

DT Journal

LA German

AB Solid textiles were laundered by a process in which liq. components (surfactant, builder, bleaching agent, bleaching activator, softening agent) were metered individually into the washing soln. to give satisfactory cleaning of the textiles. Savings in water and energy were possible, but the combination of detergent components for optimum cleaning was different for various textiles and washing conditions.

L14 ANSWER 3 OF 3 HCA COPYRIGHT 2002 ACS

AN 86:6587 HCA

TI Liquid detergent preparation

PA Berol Kemi AB, Swed.

SO Neth. Appl., 10 pp.

CODEN: NAXXAN

DT Patent

LA Dutch

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 7513646	A	19760528	NL 1975-13646	19751121
	SE 7414792	A	19760526	SE 1974-14792	19741125
	SE 408714	C	19791011		
	SE 408714	B	19790702		
	US 4018696	A	19770419	US 1975-633899	19751120
	BE 835803	A1	19760316	BE 1975-162060	19751121
	FI 7503281	A	19760526	FI 1975-3281	19751121
	FI 59264	B	19810331		
	FI 59264	C	19810710		
	DK 7505248	A	19760526	DK 1975-5248	19751121
	DK 151230	B	19871116		
	DK 151230	C	19880425		
	NO 7503929	A	19760526	NO 1975-3929	19751121
	NO 143581	B	19801201		
	NO 143581	C	19810311		
	FR 2292037	A1	19760618	FR 1975-35730	19751121
	FR 2292037	B1	19780623		
	JP 51076306	A2	19760701	JP 1975-140717	19751121
	JP 53025812	B4	19780929		
	ZA 7507318	A	19761124	ZA 1975-7318	19751121
	AU 7586857	A1	19770512	AU 1975-86857	19751121
	AT 7509888	A	19771015	AT 1975-8888	19751121
	CA 1040505	A1	19781017	CA 1975-240194	19751121
	GB 1531496	A	19781108	GB 1975-47994	19751121
	SU 655325	D	19790330	SU 1975-2191055	19751121
PRAI	SE 1974-14792		19741125		

AB Stable liq. detergents contained water, alkoxyated fatty alcs., and a (RO)2P(O)ONa-ROP(O)(ONa)2 mixt. with R = C9-11 alkyl and were suitable for addn. to laundering solns. by automatic metering app. Thus, a detergent comprised ethoxylated (8 moles) C14-20 alcs. 5, Me(CH2)9OP(O)(ONa)2 [14245-44-4] 4, [Me(CH2)9O]2P(O)ONa



[16686-86-5] 1, N(CH<sub>2</sub>CO<sub>2</sub>Na)<sub>3</sub> 12, and water 78%.

=> fil stnguide

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FILE 'HCA' ENTERED AT 16:46:44 ON 20 FEB 2002  
CHARGED TO COST=0592087  
L1 15939 S LAUND?  
L2 2117 S (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 S L1 OR L2  
L4 1975302 S DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) () (SOLUT? OR SOL  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 S L5 AND (INJECT? OR PRE()SPOT? OR SPRAY?)  
L7 7 S L6 NOT P/DT  
L8 1378 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L9 1371 S L8 NOT L7  
L10 98 S L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC  
L11 12 S L10 NOT P/DT  
L12 86 S L10 NOT L11

FILE 'STNGUIDE' ENTERED AT 17:04:04 ON 20 FEB 2002  
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FILE 'HCA' ENTERED AT 17:11:59 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'STNGUIDE' ENTERED AT 17:12:01 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'HCA' ENTERED AT 17:13:52 ON 20 FEB 2002  
CHARGED TO COST=0592087  
L13 1273 S L9 NOT L10  
L14 3 S L13 AND (AUTOMATIC? OR DOOR) (2W) (DISPENS? OR INJECT? OR METER

FILE 'STNGUIDE' ENTERED AT 17:20:25 ON 20 FEB 2002  
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=> fil hca;s l13 not l14

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FILE COVERS 1907 - 14 Feb 2002 VOL 136 ISS 8  
FILE LAST UPDATED: 14 Feb 2002 (20020214/ED)

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L15 1270 L13 NOT L14

=> s l15 and simultan?(2a) (dispens? or fill? or inject? or meter? or pump?)

316693 SIMULTAN?

11489 DISPENS?

308929 FILL?

578620 INJECT?

31059 METER?

158558 PUMP?

5335 SIMULTAN?(2A) (DISPENS? OR FILL? OR INJECT? OR METER? OR PUMP?)

L16 0 L15 AND SIMULTAN?(2A) (DISPENS? OR FILL? OR INJECT? OR METER? OR PUMP?)

=> s l15 and simultan?

316693 SIMULTAN?

L17 18 L15 AND SIMULTAN?

=> d ti 1-18;fil stnguide

L17 ANSWER 1 OF 18 HCA COPYRIGHT 2002 ACS

TI Antisoling finish for textiles for use in health care institutions

L17 ANSWER 2 OF 18 HCA COPYRIGHT 2002 ACS

TI Corrosion inhibitor solutions applied with wiping-cloth package in cleaning and degreasing of metal surface

L17 ANSWER 3 OF 18 HCA COPYRIGHT 2002 ACS

TI Manufacture of hygroscopic nonwoven fabrics of melt-blown fibers

L17 ANSWER 4 OF 18 HCA COPYRIGHT 2002 ACS

TI Measurement of zeolite, silicate, and phosphate in laundry detergent products by inductively coupled plasma atomic emission spectrometry

L17 ANSWER 5 OF 18 HCA COPYRIGHT 2002 ACS

TI Neutralization and bleaching of anionic surfactants for use in granular detergent compositions

L17 ANSWER 6 OF 18 HCA COPYRIGHT 2002 ACS

TI Agglomeration of high active anionic surfactant pastes to form granules useful in detergent compositions

L17 ANSWER 7 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Method of manufacture of ternary mixture of sulfonate and sulfate surfactants

L17 ANSWER 8 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Method of manufacture of mixture of sulfonate and sulfate surfactants

L17 ANSWER 9 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Laundry detergents containing bleach

L17 ANSWER 10 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Detergent compositions

L17 ANSWER 11 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Laundering compositions

L17 ANSWER 12 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Additive for granular washing and cleaning compositions

L17 ANSWER 13 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Detergent compositions containing mixtures of anionic and nonionic detergent-active materials

L17 ANSWER 14 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Fabric softening composition

L17 ANSWER 15 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Process for making detergent compositions

L17 ANSWER 16 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Softening additive and detergent composition

L17 ANSWER 17 OF 18 HCA COPYRIGHT 2002 ACS  
 TI Combined washing and softening composition

L17 ANSWER 18 OF 18 HCA COPYRIGHT 2002 ACS  
 TI The value of silicate of soda as a detergent. III. Siliceous silicate in water containing calcium bicarbonate or carbon dioxide

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 COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE  
 AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE  
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FILE CONTAINS CURRENT INFORMATION.  
 LAST RELOADED: Feb 15, 2002 (20020215/UP).

=> d bib abs 1,17

YOU HAVE REQUESTED DATA FROM FILE 'HCA' - CONTINUE? (Y)/N:y

L17 ANSWER 1 OF 18 HCA COPYRIGHT 2002 ACS  
 AN 133:5814 HCA  
 TI Antisoling finish for textiles for use in health care institutions  
 IN Iordache, Nicolae; Vranceanu, Niculina; Gheorghiu, Florin; Dinculescu, Verocika; Acsente, Niculina  
 PA S.C. Sanbutfex - S.A., Buftea, Rom.  
 SO Rom., 4 pp.  
 CODEN: RUXXA3  
 DT Patent

LA Romanian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 110714	B1	19960329	RO 1995-1642	19950920
AB	Cellulosic fabrics are treated in a bath contg. 1-3 g/L sequestering agent mixt. and 0.5-1.5 g/L surfactants, e.g., wetting agents, detergents, dispersants, stabilizers, for 15-30 min at 50-60.degree., followed by alkali treatment <b>simultaneous</b> with bleaching in a bath contg. 3-4 g/L NaOH and 6-8 mL/L H2O2 35%, for 1-2 h at 98.degree.. The ratio of sequestering agent-surfactant mixt. to NaOH-H2O2 bath is 1:2. After treatment, the fabric is washed, treated with brightening agents, and softeners in conventional manner. The textiles thus treated have superior hydrophilicity and ease of cleansing, retention of whiteness, and uniform appearance after multiple <b>laundering</b> .				

L17 ANSWER 17 OF 18 HCA COPYRIGHT 2002 ACS  
AN 82:158154 HCA  
TI Combined washing and softening composition  
IN Grecsek, John J.  
PA Colgate-Palmolive Co.  
SO Ger. Offen., 24 pp.  
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2433079	A1	19750206	DE 1974-2433079	19740710
	FR 2236925	A1	19750207	FR 1974-24119	19740711
	FR 2235925	B1	19780331		
	AU 7471138	A1	19760115	AU 1974-71138	19740711
	AU 496839	B2	19781102		
	BE 817610	A1	19741104	BE 1974-146521	19740712
	DK 7403770	A	19750303	DK 1974-3770	19740712
	DK 150987	B	19871005		
	DK 150987	C	19880215		
PRAI	US 1973-378881		19730713		

AB **Mixts.** of anionic **detergents** 5-20, nonionic detergents 1-10, cationic quaternary ammonium compd. 2-10, and Na tripolyphosphate (I) 10-45% were used for **simultaneous laundering** and softening of textiles. Thus, a detergent comprised Na tridecylbenzenesulfonate [26248-24-8] 12, ethoxylated (11 moles) C14-15 fatty alcs. 4, dimethyldistearylammonium chloride [107-64-2] 5, I 33, Na silicate 7.5, CM-cellulose 0.5, Na sulfate 30, and water 8%.

=> d his

(FILE 'HOME' ENTERED AT 16:46:31 ON 20 FEB 2002)  
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FILE 'HCA' ENTERED AT 16:46:44 ON 20 FEB 2002  
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L1 15939 S LAUND?  
L2 2117 S (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 S L1 OR L2  
L4 1975302 S DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) (I) (SOLUT? OR SOL  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 S L5 AND (INJECT? OR PRE (I) SPOT? OR SPRAY?)  
L7 7 S L6 NOT P/DT  
L8 1378 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L9 1371 S L8 NOT L7  
L10 98 S L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC  
L11 12 S L10 NOT P/DT  
L12 86 S L10 NOT L11

FILE 'STNGUIDE' ENTERED AT 17:04:04 ON 20 FEB 2002  
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FILE 'HCA' ENTERED AT 17:11:59 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'STNGUIDE' ENTERED AT 17:12:01 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'HCA' ENTERED AT 17:13:52 ON 20 FEB 2002  
CHARGED TO COST=0592087  
L13 1273 S L9 NOT L10  
L14 3 S L13 AND (AUTOMATIC? OR DOOR) (2W) (DISPENS? OR INJECT? OR METER

FILE 'STNGUIDE' ENTERED AT 17:20:25 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'HCA' ENTERED AT 17:21:54 ON 20 FEB 2002  
CHARGED TO COST=0592087  
L15 1270 S L13 NOT L14  
L16 0 S L15 AND SIMULTAN?(2A) (DISPENS? OR FILL? OR INJECT? OR METER?  
L17 18 S L15 AND SIMULTAN?

FILE 'STNGUIDE' ENTERED AT 17:23:57 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'HCA' ENTERED AT 17:25:35 ON 20 FEB 2002  
CHARGED TO COST=0592087

FILE 'STNGUIDE' ENTERED AT 17:25:38 ON 20 FEB 2002  
CHARGED TO COST=0592087

=> d his

(FILE 'HOME' ENTERED AT 16:46:31 ON 20 FEB 2002)  
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FILE 'HCA' ENTERED AT 16:46:44 ON 20 FEB 2002  
CHARGED TO COST=0592087  
L1 15939 S LAUND?  
L2 2117 S (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 S L1 OR L2  
L4 1975302 S DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) () (SOLUT? OR SOL  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 S L5 AND (INJECT? OR PRE() SPOT? OR SPRAY?)  
L7 7 S L6 NOT P/DT  
L8 1378 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L9 1371 S L8 NOT L7  
L10 98 S L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR EQUIP? OR DEVIC  
L11 12 S L10 NOT P/DT  
L12 86 S L10 NOT L11

FILE 'STNGUIDE' ENTERED AT 17:04:04 ON 20 FEB 2002  
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FILE 'HCA' ENTERED AT 17:13:52 ON 20 FEB 2002  
CHARGED TO COST=0592087  
L13 1273 S L9 NOT L10  
L14 3 S L13 AND (AUTOMATIC? OR DOOR) (2W) (DISPENS? OR INJECT? OR METER

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L15 1270 S L13 NOT L14  
L16 0 S L15 AND SIMULTAN?(2A) (DISPENS? OR FILL? OR INJECT? OR METER?)  
L17 18 S L15 AND SIMULTAN?

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FILE 'HCA' ENTERED AT 17:25:35 ON 20 FEB 2002  
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FILE 'STNGUIDE' ENTERED AT 17:25:38 ON 20 FEB 2002  
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=> fil hca

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=> s l3 and l4

L18 11513 L3 AND L4

=> save temp l18 gohl/a

ANSWER SET L18 HAS BEEN SAVED AS 'GOHL/A'

=> d his full

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FILE 'HCA' ENTERED AT 16:46:44 ON 20 FEB 2002  
CHARGED TO COST=0592087

L1 15939 SEA PLU=ON LAUND?  
L2 2117 SEA PLU=ON (GARMENT? OR CLOTH?) (3A) (WASH? OR CLEAN?)  
L3 17728 SEA PLU=ON L1 OR L2  
L4 1975302 SEA PLU=ON DETERG? OR SOAP? OR SURFAC? OR (USE OR STOCK) (W) (SO  
LUT? OR SOLN# OR LIQ?)  
L5 1147 S L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR BLEND? OR MIX?  
L6 180 SEA PLU=ON L5 AND (INJECT? OR PRE(W)SPOT? OR SPRAY?)  
L7 7 SEA PLU=ON L6 NOT P/DT  
D TI 1-7  
D  
D BIB ABS 3  
L8 1378 SEA PLU=ON L3 AND L4 (3A) (METER? OR MEASUR? OR DISPENS? OR  
BLEND? OR MIX? OR INJECT? OR PRE(W)SPOT? OR SPRAY?)  
L9 1371 SEA PLU=ON L8 NOT L7  
L10 98 SEA PLU=ON L9 AND (L1 OR WASH? OR CLEAN?) (2A) (MACHINE OR  
EQUIP? OR DEVIC? OR DEV# OR APPT# OR APPARAT?)  
L11 12 SEA PLU=ON L10 NOT P/DT  
D TI 1-12  
D BIB ABS 3,11,12  
L12 86 SEA PLU=ON L10 NOT L11  
D TI 1-10  
D TI 11-86

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D BIB ABS 4,6,7,9,16,19,22,32,35,48,50,57,58,84,85

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L\*\*\* DEL 0 S L9 NOT L10

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L13 1273 SEA PLU=ON L9 NOT L10  
L14 3 SEA PLU=ON L13 AND (AUTOMATIC? OR DOOR) (2W) (DISPENS? OR  
INJECT? OR METER? OR PUMP? OR SUPPLY? OR ADD? OR SPRAY? OR  
DISPERS? OR DISTRIB? OR PORTION? OR DISCHARG?)  
D TI 1-3  
D BIB ABS 1-3

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FILE 'HCA' ENTERED AT 17:21:54 ON 20 FEB 2002  
CHARGED TO COST=0592087

L15 1270 SEA PLU=ON L13 NOT L14  
L16 0 SEA PLU=ON L15 AND SIMULTAN? (2A) (DISPENS? OR FILL? OR INJECT?  
OR METER? OR PUMP?)  
L17 18 SEA PLU=ON L15 AND SIMULTAN?  
D TI 1-18

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CHARGED TO COST=0592087  
D BIB ABS 1,17

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CHARGED TO COST=0592087

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CHARGED TO COST=0592087

L18 11513 SEA PLU=ON L3 AND L4  
SAVE TEMP L18 GOHL/A

FILE HOME

FILE HCA

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FILE STNGUIDE  
FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Feb 15, 2002 (20020215/UP).